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THE DUTY OF THE GENERAL PRACTITIONER TO THE DEAF CHILD.*

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GENTLEMEN,—The subject which I have chosen for my lecture to you this afternoon may possibly come as a surprise. The majority of you may probably think that there can be no doubt whatever as to what your duty to the deaf child can be, and this I am prepared fully to admit. But, from an experience of ear and nose work which began twenty years ago, I have been forced to the conclusion that, although this duty may be very clear, it is one which has been, and, I fear, still is, terribly neglected. Were it otherwise, I venture to affirm that there would be fewer deaf adults in the world, and what, perhaps, may not have occurred to you, there would be fewer deaf-mutes. The question of deaf-mutism is very largely a question for the practitioner of general medicine and surgery, as much as, or even more than, for the otologist. I speak here more particularly of acquired deaf-mutism, although the general practitioner also has it in his power to do good work in the prevention of the congenital variety. But of that I shall speak later. Too frequently the acquired deaf-mute comes into the hands of the specialist too late for him to render any real service. The otologist occupies an inter-

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mediate position in this matter between the general practioner and the educationalist, and is too often helpless. It is the general practitioner who might have earlier saved the patient from his trouble, and when the deaf-mute comes to the otologist the latter can only pass him on to the teacher of the deaf. The only method of treating acquired deaf-mutism is by prevention.

I am, therefore, not going to talk this afternoon about mastoids and labyrinthine suppuration, nystagmus and Bárány's tests, vertigo and tinnitus, or the vast strides of otology and the improvements in modern aural operations, but to enter into the early conditions, many of them eminently preventable, that are the forerunners of those ear diseases which make these modern aural operations necessary, and which, if left to themselves, are sure and certain in their evil consequences.

Great as have been the improvements in aural operative surgery, the real progress of otology has been along the line of prophylaxis. True advancement is not so much towards the treatment of what may be termed "end-results" as in the probing and elucidation of causes and their prevention.

The importance of preserving the hearing becomes more patent to us when we realise that (as has been shown) approximately only one person in ten has normal auditory acuity. Our normal perception of sound is such that it is beyond the requirements of daily civilised life, and there may be moderate deafness in one ear without the knowledge of the individual. Further, functional changes of the conducting apparatus take place in chronic catarrhal deafness usually without pain. These two facts may serve to account for the neglect of so important an organ at the time when its restoration would be an easy task, but they must not be considered as excuses. I need not point out the disabilities to which a person whose hearing is defective is subjected as regards his career, or how it may bar him from the public services, or how his field of usefulness as a self-supporting citizen is narrowed thereby. With a large number of such persons the commencement of disability goes back to early school life, at a time when its causes are easily remedied, and this fact alone should rouse us to a sense of our grave duties towards the deaf child. School medical inspection is beginning to do good work in this regard, and parents are commencing to realise that the ear and nose require as much supervision as do the eyes and teeth. An American physician has remarked recently, with a bold outspokenness which does him credit, "That the children of our private schools and so-called better class are neglected must be largely the fault of the advice and inefficient treatment of the family physician,

who is not alive to the possibilities of the early care and treatment of the middle ear." That sentence was applied to the United States, but I fear that its applicability is by no means confined to that country.

Were I asked what is the greatest advance which has marked otology during the past ten or fifteen years, I should unhesitatingly reply that it is the recognition of the fact that the greatest cause of ear disease lies in the nose and naso-pharynx. We know now that the respiratory tract commences, not at the larynx and trachea as the older anatomical text-books suggested, but at the anterior nares, and that the middle ear, which is a diverticulum of that tract, shares with the nose in its functional and pathological variations from the normal. It will be useful to my purpose to consider for a moment the anatomy and physiology of the Eustachian tube. The outer or tympanic end of each tube is enclosed, for about half an inch, in hard bone; it is a mere slit for about an inch and a half embedded in the soft tissues, its inner end being about three inches from the outside, at the tip of the nose. Its lumen is lined with ciliated epithelium, the motion of whose cilia is towards the naso-pharynx, and working to drive out infective agents; its true dilator is the tensor palati muscle, which pulls it open; its floor is pushed upwards by the swelling of the rounded belly of the levator palati, and its posterior or cartilaginous lip is pushed backward by this same contraction, and pulled backward by the retractor. By these movements its mouth is opened, and the relaxation of these muscles, especially the levator palati, causes, with them, a pumping or sucking motion which clears the tube, and, assisted by the elasticity of the tympanic membrane, even sucks air and fluids from the tympanum itself. If, however, the region of its mouth is covered in, or pressed upon by fibroid or adenoid tumours, or by swollen mucous membranes, these motions are lost or diminished, and the important protection afforded by normal ventilation and drainage is in abeyance, so that secretions cannot get out, and infections gain an entrance. That this protection is effective is to be concluded from the rarity of ear-troubles when the sides of the naso-pharynx are unaffected by growths or swellings, and by their frequency when the reverse is the case. The real orifice of the Eustachian tube, therefore, lies at the outer nostril, and nasal obstruction is equivalent to Eustachian obstruction, for, unless the nostril is free, air cannot obtain access to replace that sucked out of the tympanum, and the normal Eustachian movements during respiration cannot take place. The mucous and serous glands of the nasal mucous membrane are functionally dis-

turbed by faulty nasal development, by which their activity is increased, or from the result of acute infections. In the better classes of adults nasal hyperæmia is increased by under-exercise, over-heating, and intestinal toxæmia set up by over-feeding, so that, speaking generally, catarrhal deafness is as common in the richer as in the poorer classes, despite the greater exposure of the latter to acute diseases. Such conditions as acute middle-ear suppuration and mastoid empyema, although compelling attention and in urgent need of treatment, do not work so much havoc upon the hearing as does a neglected chronic catarrh. The great majority of cases of deafness are directly resultant from acute or chronic inflammations, and it is, therefore, to these that I direct your special attention rather than to the rarer forms of defective hearing, although I shall refer later to some of these.

If we take a large number of chronic deaf adult cases, we shall find that in the majority the condition began in the first years of life. At that time treatment is certain, and it is the period at which the general practitioner is in close touch with the child, and has it in his power to do a very great deal to teach parents the early symptoms of middle-ear complications and their results if neglected. He should use his best endeavours to instruct the public that earache, even when the attacks are transient, is not due to such causes as teething, neuralgia, and worms, as has long been a popular superstition, but that it is a middle-ear congestion, due to conditions in the upper respiratory tract, and, as such, calling for careful and immediate attention. It cannot fail to strike anyone who possesses a large experience of deaf work that it is a very common fact amongst adult patients with chronic catarrhal deafness that they suffered from recurrent attacks of earache in early years. These attacks disappear as time goes on, but the ear which is thus affected later develops permanent changes in its mucous lining, or, maybe, is invaded by a suppurative process connected with some more active infection. Such an ear seldom or never regains completely its function, unless the post-nasal space is restored to normal and the balance of atmospheric pressure is reconstituted in the tympanum through the Eustachian tube. These premonitory symptoms, manifested in the majority of cases, are too frequently disregarded, not only by parents, but by the profession.

This brings us to the consideration of what condition is found in the naso-pharynx of children who suffer in the way I have described.

The shape and relative size of the nose and naso-pharynx change

very much between the period of their development in the fœtus and the form which they assume permanently in later life. These changes have a very important influence upon the pathological conditions which may develop in this region, and make any form of obstruction therein a much more serious matter in young children than in adults. The function of the nose, primarily the seat of the special organ of smell, is in man chiefly respiratory. That part of the mucous membrane which is concerned with olfaction is confined to a patch of epithelium, about the size of a threepenny piece and of a yellowish colour, situated high up, just above the middle and in front of the superior turbinate body. The whole of the remaining mucous membrane, with its many folds and reduplications, its complicated and elaborate blood, lymphatic and glandular arrangements, is wholly respiratory in function. The width of each nasal chamber is relatively less in the infant than in the adult, hence nasal obstruction is more serious, not merely because of its relatively greater interference with respiration, but also because the obstruction causes a decided interference with sucking. The septum is relatively thicker in the infant; the naso-pharynx at birth is relatively long and shallow, and the Eustachian tubes are more patent and have less prominent cushions. The great cause of nasal obstruction in children is due to hypertrophy of the pharyngeal tonsil—*adenoids*—and the first step in the prevention of otitis media in infants and young children is the consideration of the problems connected with lymphoid development.

Hypertrophied adenoid tissue may be congenital. In children six months old, if there is much adenoid hypertrophy, it may obstruct the larynx, for the naso-pharynx is then relatively low and the larynx is relatively high. It may also, from its relatively low position, make deglutition difficult. Eustace Smith has recently pointed out in the 'Practitioner' that a frequent and hitherto insufficiently recognised symptom of adenoids in children is the existence of gastric derangements due to the swallowing and nocturnal trickling into the stomach of the thick and acrid mucus secreted by the adenoid mass. A case of my own will serve forcibly to demonstrate this fact. A little girl, aged 7 years, suffered, among other adenoid symptoms, from frequent attacks of dyspepsia, with morning nausea and vomiting. Since the removal of a large mass of adenoids some five or six years ago, these attacks, which had been considered to be quite unconnected with the growth and which had been treated unsuccessfully by divers methods, have entirely ceased.

Now lymphoid tissue in the naso-pharynx is a normal condition in

every child, but when the child is predisposed to hypertrophy of that tissue (and the condition often runs in families) the general practioner has a grave responsibility on his shoulders. He should give careful consideration to, and should be prepared to advise parents on, the subjects of dress, exercise, ventilation, food, the care of the teeth, the various irritations of the mucous membrane of the mouth, upon general hygiene and metabolism. He should warn them of the effect upon the naso-pharynx and its lymphoid tissue of the infectious diseases of children, as well as the results upon the faucial and pharyngeal tonsils of simple acute infections. If this advice is conscientiously and firmly given, it will do much towards the prevention of hypertrophy and the evils which follow in its train.

When adenoid tissue is associated with recurrent attacks of earache, or with otorrhœa, with follicular pharyngitis and nasal obstruction, there is no need of posterior rhinoscopy or palpation to know that the condition has become pathological. Another popular superstition that is dying, but dying hard, is that enlarged cervical glands are due to scrofula. Until recently I thought that the very word "scrofula" was a thing of the past with the profession at any rate, although in the lay mind it is a mysterious entity that has some vague connection with tubercle, although no one has ever been able to give me a satisfactory definition of what "scrofula" really is. But lately I have heard it used quite confidently as describing a condition that is apparently inevitable in childhood by various medical men who, in these days of cheap text-books, post-graduate courses and voluminous literature, certainly ought to know better. Here, again, when the practitioner meets with this condition of so-called scrofulous glands, he can do much by pointing out that they are due in reality to the absorption of toxins from inflammation of the faucial and pharyngeal tonsils. Here I would point out that adenoids and tonsils, being similar structures, the former are just as liable as the latter to infection of their crypts and to become septic. I look upon this tendency to septicity as one of the gravest features of tonsils and adenoids and their influence. Except in very young children, where they cause obstruction by their size, hypertrophied tonsils and adenoids are not of such grave importance merely on account of their hypertrophy as when they become septic. De Ponthière insisted upon this in a valuable paper read in 1909 to the French Otological Society. In that paper he pointed out that in some cases of chorea the condition was kept up and probably initiated by chronic septic tonsils and adenoids. I might add that

de Ponthière worked carefully at the subject for some twelve years before he published anything upon it—an example worthy of imitation by others.

As regards the effect of adenoids upon the middle ear, I would ask you to bear in mind that they act in two ways: By causing obstruction by their mass to nasal respiration, and, when septic, by infecting the tympanum through the Eustachian tube. Mere obstruction by mass is more likely to have serious results upon the ear in younger children, whose post-nasal spaces are small and undeveloped. Obstruction by mass also interferes with the function of the palatine muscles, which normally open the Eustachian tubes and ventilate the middle ear. Important as this is, it is septicity which has the gravest results; the frequent catching of colds, during which the child becomes deaf from extension up the Eustachian tubes, is the common complication of adenoids.

This leads me to speak of the adenoid operation. Long experience has brought me to the opinion that this procedure is one which is frequently the worst performed of all the simple manipulations of surgery. After the age of four years, true adenoid hypertrophy does not recur if properly removed, yet one frequently sees cases in which symptoms have persisted after operation, and on investigation it is found that the growths have never been efficiently taken away. To the looker-on the removal of adenoids and tonsils is a very simple and easy affair, but this is one of the instances where the looker-on does not always see most of the game. The result of such imperfect surgery is disappointment for both operator and parent, and unmerited discredit for the operation.

In operating with forceps it requires a good deal of practice before the surgeon knows thoroughly well what he is doing in the post-nasal space. The cradled curette is a cleaner and more efficient instrument, and the forceps are rightly falling into the limbo of the obsolete. There is, however, a wrong way as well as a right way of using the curette. Inexperienced operators do not appreciate the fact that, to be successful with this instrument, the front of the curette should be felt to touch the nasal septum, and the fenestrum pressed well against the pharyngeal roof before sweeping it backwards. If the former is not done the most anterior portion of the growth is left, whilst if one fails to push the instrument well home the adenoids are merely shaved and not removed. No surgeon should consider himself efficient at removing adenoids until he can bring away the whole mass in one sweep. Moreover, the curette, to do its work properly, must be kept sharp,

for if allowed to become blunt it leaves tags which must be removed later.

But it is not merely the removal of the central mass that constitutes the operation. The fossæ of Rosenmüller—those recesses behind the Eustachian cushion—must be cleared thoroughly as well. As far as the effect upon the middle ear is concerned, it is not necessary to have any obstruction to nasal breathing from adenoids. Small amounts of lymphoid tissue about the ostia of the tubes, and especially in Rosenmüller's fossæ, will keep up an otitis media. In adults the posterior rhinoscope will reveal their results in adhesions passing between the Eustachian orifice and the pharyngeal wall, distorting the tubal opening and keeping up irritation. Therefore, a thorough clearance of Rosenmüller's fossæ is essential to success, and neglect of this measure is the secret of most of the failures met with after the adenoid operation.

I have just pointed out that there is no need to have nasal obstruction from adenoids for them to affect the middle ear, and that a small amount of lymphoid tissue about the tubes is enough to cause and to keep up a serous otitis media in children; hence the cases of middle-ear involvement, in which the real cause goes unsuspected. In the course of an investigation into a large number of school children, with a view to ascertaining the occurrence of adenoids, which I published recently, 51 out of 1246 had ear complications. Every one of these children had adenoids. They were, however, by no means all of them mouth-breathers. It should never be forgotten that earâche in children, especially before puberty, unless due to injury, practically never occurs without the presence of adenoids in Rosenmüller's fossæ, and that progressive catarrhal deafness in adults is always accompanied and caused by lessening of the normal movements of the Eustachian tubes, by swollen mucous membranes in the sides of the naso-pharynx, or by remains of adenoids, or adhesions resulting from them, which block the fossæ of Rosenmüller. Adult catarrhal deafness is therefore due in the majority of cases to causes which have been in operation since infancy or childhood—neglected pathological legacies which are bound to show themselves in later life.

Another important fact to bear in mind is that in children under the age of four years an acute middle-ear inflammation may exist without any symptoms of pain. These cases must be familiar to every general practitioner. A child has a sudden rise of temperature, with restlessness and, possibly, symptoms of meningeal irritation, for which no physical cause can be discovered, but which

improve after a discharge from the middle ear has become established. In such cases the practitioner should never fail to examine the ear before discharge has drawn his attention to it, when redness and bulging of the membrana tympani will reveal the true nature of the case, and a clean incision, followed by the removal of adenoids, will prevent the danger of a discharge, which may become chronic, as well as, if possible, permanent impairment of hearing. Such cases without pain are common in broncho-pneumonia, influenza, and enteric, and their neglect is another potent cause of deafness in after life.

In measles and scarlet fever there is a high percentage of middle-ear involvement, and prompt treatment is necessary to avert serious consequences and fatal impairment of hearing. I may point out here that, in scarlet fever, the condition is often one of true bone inflammation rather than of simple middle-ear suppuration, and this accounts for the number of chronic suppurations with mastoid involvement and great destruction of tissues seen after this infectious fever. Full information as to scarlatinal otitis will be found in a paper which I published in the 'Practitioner' for January, 1909.

In dealing with the acute otitis of children, the general practitioner should base his care upon the careful inspection of the tympanic membrane. Merely to watch the case without due consideration of the stage of the disease is to court disaster and allow to pass the time for interference, the ultimate result being serious and often irremediable destruction of hearing. There is always a time for prevention, and if not promptly seized it passes for good and all. I will sketch out what is, to my mind, the best course to pursue in simple cases. If the patient is seen before discharge has appeared, incision of the bulging membrane, followed by mopping and the insertion of a light drain of sterile gauze, carried to the bottom of the meatus, will relieve the condition and prevent natural perforation. It is usually better not to irrigate after incision. Clearance of the nasal passages by a warm alkaline spray and benzoin inhalations will keep the naso-pharynx clear and the Eustachian tube open until such time as it is advisable to remove the adenoids. If, however, perforation and discharge have already occurred, and pain is a prominent symptom, hot irrigations and inhalations of benzoin or menthol, confinement to bed in a warm room, and a mild cathartic will suffice. During the congestive stage, but only then, large irrigations every two hours of hot normal sterile salt solution are useful, followed by careful mopping and the intro-

duction of a drain of ribbon gauze to the bottom of the meatus. The tympanic membrane should be inspected frequently, and if the perforation is small and the discharge profuse, incision should be practised. Should discharge persist for more than ten or twelve days, its continuance is due to some complication, and further frequent and large irrigation is inadvisable as conducive to the formation of polypi, adhesions, and the possibility of mastoid or intra-cranial complications. As soon as acute symptoms have subsided the naso-pharynx should be cleared, for in these cases it is not so much a question of a steadily progressive disease as of constant reinfection through the Eustachian tube, and it is only by attacking the primary source of these infections that exacerbations can be prevented. A middle-ear discharge is always a serious matter, and treatment should never be allowed to relax so long as there is a drop of pus in the meatus. Too early cessation of treatment is the secret of intermittent otorrhœa, and most of the chronic suppurations of adult life date back to childhood. Once discharge has ceased, and measures taken to prevent recurrence, other treatment can be undertaken with a view to endeavour to restore or improve the hearing.

I have now said enough on the subject of the prevention of chronic deafness in the adult by prompt attention to the ear conditions of childhood. It is pre-eminently in this department of aural surgery that the general practitioner and the otologist can be of mutual help. With our advances in ætiology and pathology it behoves us to turn aside from what I have already called end-results in order that we may do the utmost that our knowledge allows us to prevent the occurrence and to stem the progress of the acute and chronic inflammatory conditions which were the original causes of serious impairment of the hearing, causes which lead in some cases to complete deafness and consequent acquired deaf-mutism. In the words of an American otologist, the aurist must be a practical rhinologist.

It is incumbent upon me to speak briefly of some of the less common conditions which may cause serious deafness in children. These affect the internal ear, and are chiefly, leaving out the exanthemata, meningitis (simple, tuberculous and epidemic), congenital syphilis and mumps. Little can be said as to the first of these. Congenital syphilis attacks the ear generally between the ages of six and fourteen years, usually after the eye manifestations. So far as my own observations go, the eye symptoms usually precede the aural condition closely, but there may be a considerable interval of time between them, and although the ocular disease may come after the deafness, it is much less common for it to do so. Thus, in

thirty-two cases under my own observation, the eyes were attacked first in fourteen (43·7 per cent.), at the same time as the ears in six (18·7 per cent.), and after the ears in only four (12·5 per cent.), the relation being doubtful in eight (25·0 per cent.). The points upon which I would specially insist are two, first, that the ear seems especially prone to be attacked in those in whom the general disease has been allowed to escape treatment in infancy, second, that unless treatment be prompt, nothing can be done to improve the resulting deafness. Therefore every infant with signs of congenital syphilis should be submitted to a vigorous course of treatment, in order that the prevention of this complication may at least be attempted. The labyrinthine complications of congenital syphilis are highly resistant to specific treatment, and it is by no means uncommon to find them making their appearance during the time when the eye condition is under appropriate treatment, and progressing to more or less complete deafness in spite of it. The only measure which gives any hope is pilocarpine injection at the first onset of ear symptoms. The serious nature of this condition is exemplified when I tell you that, out of 500 deaf-mutes examined by me in the London County Council Deaf Schools, 17 out of the 225 acquired cases were due to congenital syphilis—a percentage of 7·5. Kerr Love found, at the Glasgow Institution, 1·8 per cent., and Castex, in describing his researches into the causation of deaf-mutism in the Paris institutions, has mentioned only 18 cases out of 719 (2·5 per cent.). My figures, therefore, appear to be unusually high, and speak eloquently as to want of care in the prevention of this terrible complication of the congenital disease.

Mumps may cause deafness by involvement of the middle ear or of the labyrinth. Cases due to this condition are decidedly rare. The labyrinthine involvement is due, apparently, to a metastasis, or to a primary localisation of the disease in the cochlea. Boot published, in the 'Journal of the American Medical Association' for December the 5th, 1908, an analysis of fifty-one cases, including two from his own observation, and his paper well repays perusal. The time and mode of onset of acute labyrinthitis in mumps varies; the symptoms—rapid deafness with or without vertigo and nausea—appear usually from the first to the third day of the primary disease, but they may be as late as the sixth or seventh, and have been known to precede it. The general practitioner should never forget this serious complication of mumps, for everything depends upon prompt treatment, and pilocarpine and iodide of potassium have been found to give excellent results.

In conclusion I must revert once more to the subject of deaf-mutism, which was touched upon at the beginning of this lecture. I cannot go into the causes of deaf-mutism here, but I would recommend to your attention an excellent paper by Mackay, published in the 'Practitioner' for October, 1908, in which it is remarked that —"Of all the practitioners of medicine and surgery, the general practitioner is the one who can do most to prevent it. It is his advice that the public acts upon, when it acts upon expert advice at all in things pertaining to health, and it is his aid that the afflicted public seeks first when it awakens to a sense of its aural disabilities."

There are two great classes of deaf-mutes, the congenital and the acquired. As regards the latter the general practitioner can diminish their number, if he will but give practical attention to the treatment of ear conditions in children (the salient points of which I have endeavoured to lay down), and especially to those occurring in the course of the general diseases.

But it is not alone in acquired deaf-mutism that his duty calls him to activity. When the history, and especially the family history, of the congenitally deaf is examined, two facts come into prominence—heredity and consanguinity. Taking first heredity, it will be found that opinions differ widely, but there is no doubt that the view that heredity plays a prominent part is coming to be much more generally held. It is not sufficient to take into consideration the immediate effects of deaf-mute parentage, but one must look much further and include not merely the direct ancestry, but the collateral branches. If this is done it will be found that the abnormality of deaf-mutism appears repeatedly. Heredity is less frequent in the direct line (parents and grandparents), more frequent in collateral branches (great uncles and aunts, uncles, aunts, grandparents' cousins, parents' cousins, cousins, and second cousins), and most frequent among the brothers and sisters of the deaf-mute.

The effect of consanguinity is also much disputed, but it is undoubted that it is a potent predisposing cause. I can only quote here a very limited number of facts to demonstrate this. In Denmark, according to Mygge, consanguineous marriages may be supposed to represent about 3 to 4 per cent. of all marriages, yet 6·75 per cent. of the deaf-mutes admitted to the Royal Deaf and Dumb Institution in Copenhagen were the result of such marriages. Deaf-mutism is more common amongst Jews than amongst Protestants and Roman Catholics, and more common amongst Protestants than amongst Roman Catholics. This follows the customs prevailing in these

three sects in regard to marriage, for intermarrying largely occurs amongst the Jews, and Roman Catholics discourage cousin marriages whilst Protestants permit them. It is, however, only right to say that there have been brought forward facts which tend to deductions of an opposite nature to those just quoted. Possibly, however, this anomaly may be explained when the investigations into the relationships of the parents are more exactly conducted, as suggested by Mackay in reference to the marriage customs of the Fijians. It may be fairly stated, nevertheless, that something like 50 per cent. of the cases of congenital deaf-mutism are the result of marriages either (1) amongst those who have cases, either direct or collateral, in their families, or (2) amongst those who are blood relations.

Here, then, becomes apparent another obvious duty of the general practitioner, and one which he will not infrequently have an opportunity of bringing into action. He should, whenever the occasion occurs, do all he can to discourage such marriages. It may be that when we, as a nation, are more alive to the necessities of race culture, when we more fully realise that national wealth is not gold, but healthy, normal citizens, we shall discourage consanguineous marriages in tainted families by law. Until then it will remain the paramount duty of every medical man to do his utmost in this direction, and to foster in his patients the feeling that we have a bigger duty towards future generations than we have to ourselves.

Lastly, there is a duty to congenital and acquired deaf children, whose defect, it must be remembered, lies, in the majority of cases, only in the absence of the sense of hearing. That duty is to impress upon their parents that to obtain the best results from education by the oral system (which is the only system which can give to the deaf child anything approaching normal intercourse with his more fortunate brethren), such education must begin as early as possible, whilst brain and larynx are still plastic, that attendance at the deaf school must be as regular as possible, and that the oral training carried out by the trained teacher of the deaf must be continued, supplemented, and amplified at home by treating the child as a *speaker* and not as a *signer*.

THE PORTALS OF INFECTION IN TUBERCULOSIS.

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The question of the portals through which tubercle may infect the body is a large and very important one, for upon it depends the means which should be undertaken to ensure prophylaxis against the disease, which causes 10·7 per cent. of the deaths in this country. Of recent years there has been a tendency towards a change of opinion as to which is the chief mode of entrance of the infection, though whether such a change is justified in all cases still remains to be proved.

The possible avenues of infection appear to be five in number: (1) Through the lungs themselves as the result of the inhalation of tubercle bacilli either in the form of dust, or suspended in droplets of moisture, the exhalation or expectoration of infected beings; (2) through the mucous membrane of the mouth, nose or pharynx; (3) through the intestinal tract as the result of the ingestion of infected milk or other food, or of the swallowing of mucus or saliva infected with bacilli; (4) through other mucous membranes, such as the conjunctival or that of the urino-genital tract, or through the skin; (5) by means of the placental circulation from a tuberculous mother. The last mode of infection, occurring, as it does, only when placental tuberculosis exists, is so rare that for the present purpose it may be left out of consideration.

In the first place as regards infection through the mouth and naso-pharynx there is, according to Grober's experiments, a direct route to the pleuræ and lungs from the tonsils by way of the cervical lymphatic glands, and this observation, it may be mentioned, has led that investigator to suggest that to a tonsillar infection must be attributed the fact that it is the apices of the lungs rather than the other parts which are chiefly attacked by the tubercle bacillus. If, then, the tonsils play a part in the infection by tubercle, it is possible that other structures in the mouth and pharynx may also serve as an entrance for the bacillus, *e. g.* adenoid vegetations, which are so closely associated with abnormal tonsils, and carious teeth, in conjunction with which pulmonary tuberculosis is often found. Thus Cornet has recorded cases in which the mucous membrane of the nasal and buccal cavities was said to be

the entrance of infection. In these cases where the mouth and pharynx are said to be at fault infection possibly occurs by means of food, though the probability that it may be air-borne cannot be excluded, and Cornet in particular lays stress on dust and dried particles as important factors in infection. Aufrecht also affirms that the tonsil is the primary portal of infection, which spreads thence to the cervical and later to the bronchial glands: from these infecting bacilli pass into the branches of the pulmonary artery, and so the lungs become affected by the blood-stream. Roux and Josserand likewise believe that the most frequent mode of infection is by way of the lymphatic ring of the naso-pharynx, and that the next most important portal is the "lower tonsil" or vermiform appendix, though of this they adduce no very convincing proofs. Giliberti also from inoculation experiments on guinea-pigs finds that the cervical glands of children dying from non-tubercular causes, and presenting so far as was known no signs of tuberculosis during life, are far more frequently tuberculous than the inguinal glands. He therefore concludes that the buccal mucous membrane allows the passage of tubercle bacilli more frequently than is often supposed.

By those who hold that pulmonary infection arises through the cervical glands various routes by which the tubercle bacilli reach the lung have been suggested: (1) That from the cervical glands they enter the lymph-stream, and by means of the lymphatic vessels enter the venous system and so are conveyed to the lungs; (2) that their path is from the cervical to the supra-clavicular glands and thence to the apex of the lung; (3) that from the cervical they pass to the bronchial glands, from which they reach the blood-stream and the pulmonary tissues. In connection with this theory, however, it must be remarked that no communicating vessels between the cervical and the bronchial glands have been shown to exist.

As everyone knows, pulmonary tuberculosis was formerly considered to be a primary disease of the lungs set up by the inhalation of the tubercle bacillus, and as the bacillus has been found to be almost universal it is not to be wondered at that inhalation was at first supposed to be the chief, if not the only means of entrance. It is not so many years ago that Koch said, "In by far the majority of cases of tuberculosis the disease has its seat in the lungs and has also begun there; from this fact it is justly concluded that the germs of the disease must have got into the lungs by inhalation." And in spite of modern researches who shall say that in many instances this may not be true? The inhalation theory is

supported by the conditions known as anthracosis, siderosis, silicosis, etc., in which minute particles of metal, stone, or such-like material are found in the parenchyma of the lungs as the result either of an occupation which involves living in a dusty atmosphere, or of experimentally causing animals to breathe air laden with such particles. In such cases it has been thought by Arnold and others that the particles which escape the repelling action of the ciliated epithelium are inspired into the pulmonary alveoli, and are then taken into the alveolar cells or are swept onwards by the lymph into the bronchial glands, and the same was supposed to be the case with the tubercle bacilli, which either develop tubercles in the lungs or pass onwards to infect the lymphatic system. Considerable support to the inhalation theory has been given recently by the experiments of Cobbett, who found that the lungs of various animals, made to inhale an atmosphere laden with *B. prodigiosus*, yielded pure cultures of that organism, and this, in some instances, after ligature and division of the œsophagus. Similar experiments with tubercle bacilli afforded like results, the animals being proved to be tuberculous by the inoculation of their organs and glands into other animals. The way, however, in which the lungs become affected as the result of inhalation is not such a simple matter as might at first sight be supposed. There are several views as to the exact manner in which such an infection may be brought about. Thus Orth is of opinion that in a majority of cases of pulmonary tuberculosis the lungs are affected by a direct aërial infection through the air-passages and that the bronchial glands are subsequently involved. Ribbert upholds the same view as to inhalation being the means by which the disease is acquired, but he differs from Orth in that he supposes that the inhaled bacilli are absorbed and carried straight away to the bronchial glands, which in consequence become tuberculous, and that the lungs are infected secondarily by a spreading outwards of the disease from the foci, which were originally started in the glands. Birch Hirschfeld and Abrikossow, on the other hand, maintain that the bacilli are inhaled into the bronchi, and that the disease begins as a peri-bronchitis of a tuberculous nature, which tends to spread both centrifugally and centripetally. After the onset of caseation infected particles from these lesions become aspirated into the pulmonary alveoli and give rise to tuberculosis there.

Now if it be taken for granted that tuberculosis is caused by inhalation in one of the ways which have been just described, in what form is the infected material conveyed to the lungs? Here, again, authorities differ. Flügge believes that the infection is caused by

the inhalation of air containing minute droplets of fluid in which the tubercle bacilli are suspended. These droplets, of course, are derived from the exhalation or expectoration of infected persons, and Flügge is of opinion that comparatively few will suffice, as a less number of bacilli, according to him, are required to produce the disease by this means than would be the case by way of the intestines. That such droplets are drawn into the finest bronchi he states can be shown by inoculation experiments with material obtained from such bronchioles. Flügge maintains that moist particles are much more dangerous than dust, but on this point Cornet differs from him in that, as has been already stated, he holds that it is dried material which is the more important factor in dissemination, and in holding this opinion he is only confirming the views of the master, Koch.

One other argument in favour of the inhalation theory is put forward by Findel, who found that five million tubercle bacilli, when inhaled by a dog, caused extensive pulmonary tuberculosis, whereas 1220 times that dose, when given by the stomach, produced no effect, and again, when experimenting with guinea-pigs, he found that as small a number as twenty bacilli was sufficient to cause pulmonary disease when inhaled, but the animals were able to withstand 382,000 times that dose when given by the stomach.

As regards the other chief avenue of infection, the intestines, the possibility of an intestinal source of infection was mooted as long ago as 1868 by Chauveau, but in 1903 von Behring re-opened the question, and since that time a good deal of work has been done on the subject. I say intestinal rather than alimentary, as there is no certain evidence that infection occurs from the surface of the stomach. The gastric juice, though it is inhibitory to the growth of the tubercle bacillus, is not bactericidal, at least during the usual period of gastric digestion, so that bacilli in an active state can pass on into the intestines. Cadéac and Malet, amongst others, have failed in their experiments to produce pulmonary tuberculosis by inhalation, and Vansteenberghe and Grysez have recently cast doubts on the origin of pulmonary anthracosis through the inhalation of particles into the lungs, finding that coloured dust introduced into the alimentary tract traverses the mucous lining of the intestines, and is thence transported by the lymph- and blood-vessels to the lungs. Whitla and StClair Symmers therefore undertook further experiments on the latter subject. They began by injecting China ink diluted with water into the vein in the ear of a rabbit, and within an hour the lung was found to be full of carbon particles.

Next, guinea-pigs were fed by means of an œsophageal tube with China ink mixed with olive oil and water. In this case, too, the lungs were charged with carbon, while the upper mesenteric glands were free, a result which occurred within twenty-four hours, or even in as short a time as four hours if the animal had had no food during the previous day. And the same was the case when the carbon particles were injected into the peritoneal cavity. It appears that the carbon particles gain an entrance through the intestinal epithelium, and reaching the lymphatics pass through the mesenteric lymphatic glands, and finally find their way into the thoracic duct, and so into the venous circulation and the lungs. Vansteenberghe and Grysez have found that the distribution of the carbon particles is not the same in both young and adult animals. In young guinea-pigs thus fed by means of the stomach-tube, the particles, after reaching the mesenteric glands, were there arrested, so that the lungs remained free, whereas in adult animals they reached the lungs and mediastinal glands in the manner just described. They then tried inhalation experiments with young guinea-pigs, and found that after they had breathed a carbon-laden atmosphere for a long time the particles had reached the alveoli of the lung, but were not present in the parenchyma, while in rabbits, which breathe through the nose, they had not even reached the trachea. Further, thinking that the anthracosis which had been produced in prolonged inhalation experiments had been due to carbon which had been swallowed, they repeated their experiments after ligaturing the œsophagus, and found that the particles were arrested above the ligature, and that anthracosis was not produced. Another and even more convincing proof of the intestinal mode of infection is furnished by their next experiments. The digestive tract was left patent, and through a low tracheotomy one of the main bronchi was completely plugged with cotton-wool, thus cutting off one lung entirely. The animals were confined for a prolonged period in a carbon-laden atmosphere, and it was then found that the lung by means of which respiration had been carried on showed deposits in the bronchi and alveoli, and to a certain extent in the parenchyma also, whereas the lung which had been cut off presented an infiltration of the parenchyma with carbon, the bronchi and alveoli being free. The experiments of Cobbett, on the other hand, have led to a different result. He found that after feeding guinea-pigs with Indian ink there was no trace of pigmentation if the animals were under 600 grm. in weight, whereas in older animals there were only such traces as were found to be present in the controls.

From some of these experiments it is reasonable to suppose that the alimentary tract may be the source of a tubercular infection. Primary intestinal tuberculosis is rare (Albrecht found it in but $\frac{1}{16}$ per cent. in 3213 autopsies on young children, and Comby states that he has never seen a case), and on the analogy of anthracosis produced in the way described there is no need to presuppose such a lesion. Tubercle bacilli administered in fatty food to dogs, guinea-pigs, and other animals have been found in the chyle within a few hours, the intestinal surface being left intact. Calmette, in conjunction with Guérin and Breton, injected into the stomach through a tube emulsions of living bacilli in linseed, with the result that the bacilli were absorbed through the intestine and gave rise to tuberculous deposits in the mesenteric glands, lungs, and other viscera. In animals which lived beyond thirty days the lungs and mediastinal glands were always affected, while in guinea-pigs surviving fifty or sixty days the deep cervical glands were nearly always tuberculous, and even after ten days the entire lymphatic system was found to be infected, other guinea-pigs dying from generalised tuberculosis when injected with the substance of the inguinal glands from such cases. These experiments tend to prove that tuberculosis of even the cervical glands may have an intestinal origin, and not always be acquired from the mouth and fauces as has often been supposed.

In a consideration of the question of an intestinal mode of infection from an anatomical point of view, F. W. Jones has recently suggested that the cause of the site of election of tubercular disease in the lungs (one to two inches below the extreme apices), and in the vertebræ (from the sixth dorsal to the second lumbar), is the relationship of the thoracic duct or the right thoracic duct to these parts. The thoracic duct runs in front of the upper lumbar and the lower dorsal vertebræ, and passes upwards and forwards over the pleura a little below the apex of the left lung to join the subclavian vein, while the right thoracic duct occupies a similar position with regard to the right lung. The existence of tuberculosis in the thoracic duct seems to be well established, and the occurrence of a blocking of the duct apparently from this cause was described as far back as 1790 by Cruickshank. It seems not unlikely, therefore, that the starting-point of caries in the vertebræ and of tuberculous lesions in the lungs may be tuberculous foci in the thoracic ducts, which have been originated by absorption from the intestines.

Young and adult animals show the same difference in their

reactions to infection by the tubercle bacillus as in the case of carbon particles. Calmette and Guérin, experimenting upon young goats, found that tubercle bacilli introduced through the stomach-tube were arrested in the mesenteric glands, but that as soon as these became caseous the bacilli filtered through and the lungs were invaded. In the case of adult goats, the bacilli at once passed through the mesenteric glands and attacked the lungs without causing the glandular lesions which were obvious in the young animals.

The variations in the infection in the case of young and adult animals has been ascribed to the histological differences in the mesenteric glands at different ages. In the adult the alveoli of the glands are loose in structure, and consequently the bacilli may be supposed to pass through into the chyle, and be taken up by the polymorphonuclear leucocytes which convey them to the fine capillaries of the lungs and the bronchial glands. In young animals, on the other hand, the bacilli are arrested in the denser abdominal glands which first become affected. The reason why the bronchial glands may become affected in the adult after the mesenteric have escaped is explained by Bartel as due to the difference in behaviour to the tubercle bacillus on the part of the various groups of glands, tuberculosis, according to him, becoming manifest in a more severe degree and at an earlier period in the bronchial glands than in any others. Again, as F. W. Jones points out, the lymphatic vessels probably close down with increasing age, and in the abdomen the lymph circulation becomes more centred on the thoracic ducts. In this way the differences in tubercular infections in early and late life can be explained. With patent mesenteric lymphatics the occurrence of tuberculous peritonitis in children is easily accounted for, and the basal infection of the lungs, which is common in childhood, can be attributed to the passage of the bacilli along the lymphatics of the diaphragm. In the adult, on the other hand, the thoracic duct is the more important channel, and by this means the apices of the lungs become affected. Von Behring, it is to be noted, affirmed that adult phthisis was the result of an old intestinal infection which occurred in infancy, but Calmette and his colleagues reject this theory on the ground that their experiments show how easily the lungs can be infected in adult animals through the intestines.

Finally, it must be remembered that the introduction of tubercle bacilli into the intestinal tract is not necessarily followed by tuberculosis even in the most susceptible animals. The bacilli may pass

straight through, or if they are absorbed they may be taken up by the leucocytes and destroyed. On the other hand, if the bacilli are absorbed by the intestinal mucous membrane, they may gain entrance into the system without leaving any trace at the site of their entrance. Again, whenever generalised tuberculosis is produced by feeding, the lungs are usually affected—often more so than the other organs, and in spite of what has been stated by some authors, the bronchial glands almost invariably become affected subsequently to the lungs.

The other portals of infection, viz. the skin and the mucous membranes of the eye and urino-genital tract, need only a passing comment, as they are much less important than the two main ones. Lupus vulgaris and other tuberculous affections of the skin may possibly afford an entrance for the bacillus into the system, and a tuberculous epididymitis as the result of injury is not uncommon. The latter may occur without any evidence of tubercle elsewhere, and is presumably caused by bacilli in the urino-genital tract, and the same may be said of tuberculosis of the kidney and bladder. The lesions in the urino-genital tract may thus possibly be the starting-point of a dissemination of the disease throughout the body.

According to the two reports of the Registrar-General for 1906 and 1907 nearly three quarters of the deaths from tuberculosis were due to pulmonary phthisis. About one ninth were caused by tuberculous meningitis, and of these 66 per cent. were under the age of 5 years; one eleventh succumbed to tuberculosis of the peritoneum and mesenteric glands, of which 65 per cent. were under 5; and one fourteenth were due to generalised tuberculosis, about 44 per cent. being under 5 years of age.

Pulmonary phthisis is shown to be much more prevalent in adult life than in childhood, the most fatal period being between the ages of 25 and 45. Indeed, in my experience at a children's hospital, chronic pulmonary tuberculosis pure and simple is by no means a common event. Dr. Mary Williams, however, recently stated in one of the medical journals that 15·4 per cent. of the school children in Worcestershire were afflicted with the disease, but her statement has not been allowed to go unchallenged, and a refutation is also contained in James Millar's statement that "tuberculosis is not limited to the lung in children, but is generally disseminated, *i. e.* it is a blood infection." Pulmonary tuberculosis pure and simple, therefore, is essentially a disease of adult life, while children succumb to meningeal, abdominal, or probably more often to a

generalised tuberculosis. It seems, therefore, that the distribution of the disease in early life can be best explained by the results of Calmette and his fellow workers, *i. e.* that it is a disease caused by the ingestion of tubercle bacilli and their absorption through the intestinal tract. In adults also this may be true, but the possibility that the majority of cases are caused by inhaling the bacillus has yet to be disproved, and some significance attaches to the fact that there are countries, such as Japan, where tuberculosis is rife, but milk, the common carrier of infection, is but little consumed.

As regards the respective *rôles* of the human and the bovine bacillus, even if ingestion tuberculosis is admitted to occur in childhood, it does not follow that the bovine bacillus is the cause, as children have many opportunities of swallowing the human variety. Engel is strongly of the opinion that the tuberculosis of young children is almost always caused by the human type, and that the source of infection is the sputum of a phthisical nurse or mother. The superficial breathing in childhood lessens the likelihood of infection by way of the respiratory tract, and the younger the child is the more is this the case. It is probable, he thinks, therefore, that in early life a considerable part is played by the digestive tract. It must be remembered, however, that bovine tubercle bacilli have been frequently isolated from human subjects, and especially is this the case with children. They are found, moreover, generally in abdominal tuberculosis with or without tuberculous ulceration of the intestines. Bovaird states that the bovine type is present in 70 per cent. of such cases, and that it rarely occurs otherwise. This favours the view that in children at any rate a considerable number of cases are infected through the alimentary canal by tuberculous milk. Such a source of infection would be likely to give rise to lesions in the peritoneum and mesenteric glands, and, as has been stated above, 65 per cent. of those dying from this cause were under the age of 5 years. Sweeney also is of the opinion that abdominal tuberculosis is due to the bovine bacillus, as are lesions of the bones and joints, and that infection of the respiratory tract is caused by the human variety.

A review of the evidence leads one to the conclusion that the inhalation theory of tubercular infection in adults has still to be disproved. In the case of children, on the contrary, it is probable that many cases are infected through the alimentary tract, and that in them the bovine bacillus plays an important, though not exclusive, part. As regards tuberculosis in children, it must be remembered that they are very liable to become infected, and when

once the disease has gained an entrance it spreads rapidly, as a rule, giving rise to a generalised infection. The tissues in early life show but a slight resistance to the tubercle bacillus, and have little, if any, power to limit the disease to a given area, or to start reparative processes when once they are attacked. With age, however, the power of resistance increases. In infancy the lymphatic glands are the first tissues to be involved, the bronchial glands being, as a rule, the site of election. The protective power of the glands at this age being but feeble, a generalised tuberculosis in most cases results. After the first year or so the glands are more able to withstand the infection, so that protection is afforded, perhaps for a time, perhaps permanently. Later on, about puberty, the *rôle* of the lymphatic glands diminishes, and the disease is characterised by lesions in the apices of the lungs as in adult life, but at this age the infection is apt to be more rapid and more virulent than after full maturity has been attained.

ATELEIOSIS IN A MAN, AGED 42 YEARS; PHYSICAL DEVELOPMENT SAID TO HAVE BEEN ARRESTED AT ABOUT THE AGE OF 9 YEARS.*

By F. Parkes Weber, M.D., F.R.C.P.,
Physician to the German Hospital, London.

The patient, F. B. H—, aged 42 years, unmarried, first came under observation on account of slight traumatic synovitis of the left knee. He is an infantile dwarf whose physical development roughly corresponds to that of a boy of nine or ten years; but his expression, the wrinkles on his face, his attitude, his manner of speaking, and his general behaviour are rather more those of an adult. According to the family Bible, he was born in London, April the 10th, 1868, and he has heard his parents say that he was much like other children up to the age of nine years, but that his growth and development then ceased. He is said to have had "water on the brain" as a baby, and, as a child, to have had two or three falls on the head. He cannot himself remember having had any serious illness. There is no history of chronic diarrhœa or

* The case was shown at the Royal Society of Medicine (Section for the Study of Disease in Children), on May the 27th, 1910.

intestinal steatorrhœa. At present he measures 47·7 in. in height, and weighs 4 st. 13 lb. in his clothes. His head is rather large for the diminutive size of his body. The shape of his trunk, the undeveloped state of his sexual organs, the appearance of his neck (owing to the want of projection of the "pomum Adami"), and the high pitch of his voice are those of a child. There is no hair on

Fig. 1.—Ateleiosis in a man, aged 42 years.

his face or pubes. The penis is exceedingly small. No testicle can be felt on the right side; the left testicle, of about the size of a small cherry, is incompletely descended. Nothing abnormal can be discovered in the heart, lungs, or blood-vessels, or in the abdomen (by palpation) or urine. There is very slight spinal scoliosis. Mentally he seems normal, though perhaps somewhat childish. He cannot read or write, but, apparently "on account of weakness," the doctor would not let him go to school as a child. He earns a little

money by light work in a glass factory. Skiagrams (Dr. Finzi) of the extremities show persistence of some of the epiphysial cartilages, but the amount of union of the epiphyses with the diaphyses varies considerably in different bones. Dr. Finzi points out that, in the skiagrams of the hands, those epiphyses which are not yet joined to the diaphyses are seen to be bordered by a very deep shadow. Skiagrams of the skull show nothing special. The delicate "pink and white" colour of the patient's face, the extreme fineness of the

Fig. 2.—Skiagram of the knees.

hairs of his scalp, and the small size of his thyroid gland suggest that there may be an element of myxœdema combined with the ateleiosis, but these features may be merely a part of the general infantilism. His father and mother were both born in 1832, and lived to about the ages of fifty-six and fifty respectively. There is no history of any other dwarfism or infantilism in the family. "Ateleiosis" (the Greek word "ateleia" means incompleteness) was introduced by Hastings Gilford * as a convenient term for conditions

* 'Med.-Chir. Trans., Lond.,' 1902, vol. lxxxv, p. 305.

of the kind, on account of the incompleteness of development characteristic of all cases. Apparently the epiphysial cartilages may in ateleiosis persist to a considerably more advanced age than in the present patient.* Some French authors would probably suggest a

Fig. 3.—Skiagram of the hands.

theoretical condition of "polyglandular insufficiency" as an explanation for cases of ateleiosis.

* Thus, when the male dwarf whose case is described by Schaaffhausen (quoted by Hastings Gilford, *loc. cit.*, p. 325) died at the age of 61, nearly all the epiphyses were still ununited or could be easily separated. The same characteristic feature was present in the skeleton of Paltauf's case, a male dwarf who died of tuberculosis at the age of 49.

RARE CONGENITAL DEFORMITY OF THE NOSE IN AN INFANT.*

By George Wilkinson, F.R.C.S.

Surgeon to the Ear and Throat Department, Sheffield Royal Hospital.

The infant was eight months old at the time the photograph was taken. The deformity consists of a deep depression in the middle line of the nose, with wide separation of the nostrils and flattening and broadening of the whole feature. The nose is 3 cm. wide at the level of the alæ, but only projects about 1 cm., the greatest projection being on either side of the middle line in front of each

nostril. These two prominences are separated by a depression of the tip of the nose 2 cm. wide. The nasal bones and nasal processes of the superior maxillæ are flattened. There is no separation between the nasal bones. The columella is 2 cm. broad, and the anterior nasal spine can be felt behind the columella as a broad projection of bone, about 1½ cm. from side to side.

On inspection of the nasal passages the anterior ends of the nasal septum can be seen as a prominent ridge on the inner sides of each vestibule. The two sides of the septum are apparently separated from each other. There is no nasal obstruction. On everting the upper lip there is seen a distinct notch on the buccal

* Photograph shown at the Laryngological Section of the Royal Society of Medicine, February the 4th, 1910.

surface in the very centre of the lip. There is also a well-marked notch in the middle line of the alveolar process. The two halves of the alveolus are not in alignment, but meet with a forward-pointing angle. Two uncut incisors can be felt beneath the gum on either side of the mesial notch, showing that this represents a division between the two halves of the pre-maxillary bone. With regard to the developmental cause of the deformity, it has arisen no doubt from failure of fusion of the two mesial masses of the fronto-nasal process. The mesial masses usually coalesce at an early period of fœtal life to form the anterior part of the nasal septum, the columella, the median segment of the upper lip (lunula), and the pre-maxilla. Failure of union of these mesial masses seems to be a rare condition in the human subject.* Cases of median cleft of the lip (a true hare-lip) due to this cause have been reported by Mr. Clutton and Mr. Edmund Owen. Mr. Bland-Sutton instances the median split in the columella of Parisian pugs as a similar instance of want of union (Professor Keith). Professor Keith states that there is not a single museum specimen in London to illustrate the occurrence of a fissure in the mid-line of the nose in the human subject, nor is there a specimen of dermoids or of fistulæ, which occasionally occur in the line of this fissure.

A similar case in a young man was shown at the Laryngological Society of London in 1897† by Mr. W. R. H. Stewart, who operated by making a vertical incision through the groove, removing the redundant tissue, and bringing the two halves of the nose together, with great improvement of the deformity.

The present case offers several difficulties in the successful carrying out of a similar operation. In the first place, the separation of the two sides of the nose is very considerable. The anterior ends of the two halves of the septal cartilage can be felt inside the nares. The anterior nasal spine is also a solid broad piece of bone about $1\frac{1}{2}$ cm. broad. This implies that a large amount of tissue would have to be dissected away before the two sides of the nose could be approximated. A more serious difficulty is the broadness of the whole nose as compared with its projection. Suturing the lateral cartilages in the middle line would cause very unsightly flattening, and would entirely occlude the anterior nares by reducing them to oblique slits. The first object of treatment, therefore, is to effect an approximation of the nasal processes of the superior maxillæ, and

* Professor Keith, "Congenital Malformations of the Face," 'Brit. Med. Journ.,' ii, 1909, pp. 310 and 363.

† 'Proceedings of the Laryngological Society of London,' 1896–1897, iv, p. 43.

the nasal bones if possible. The child has been provided with a truss, somewhat after the pattern of Hainsby's truss, making pressure inwards on the sides of the nose, by the wearing of which for a prolonged period it is hoped to mould the feature to a somewhat narrower and less flattened shape. It will probably also be better to wait until the child is older and the nose has grown more forwards before attempting to improve its shape by operation.

London and Provincial Societies.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

Friday, June the 3rd, 1910.

Mr. W. McAdam Eccles in the chair.

Paper on the Wassermann Reaction.—Mr. N. Bishop Harman, in a paper on the Wassermann reaction in eye work, described work covering a series of some forty cases seen in the out-patient department of the West London Hospital. The pathological examinations were performed by Dr. E. H. Blunt, working under the supervision of Dr. Bernstein, pathologist to the hospital. The cases fell into three groups : (1) Children suffering from acute interstitial keratitis of a type that left no reasonable doubt that the inheritance of syphilis was the primary factor. In each of these the reaction proved positive. The mothers of these children were simultaneously examined, and also gave a positive reaction. Thus, although the mothers showed no sign of syphilis, they were as profoundly affected by the syphilitic poison as their offspring. (2) Twelve cases of ocular disease, past or present, in adults, the conditions ranging from scars of interstitial keratitis long passed to recent optic atrophy with ocular paralyses. In each of these cases of presumed syphilitic origin the serum reaction proved positive. (3) The last group of ten cases covered a varied selection of inflammations, as nearly similar as possible to those found in the syphilitic groups, and yet in which there was no suspicion of a syphilitic origin. The subjects were equally divided between children and adults. In this series the serum reaction proved negative. The author considered these results added to the cumulative evidence of the reliability of the Wassermann reaction. As one of its commendable features he instanced the fact that it entailed no risks to the patient and no inconvenience other than the abstraction of a few drops of blood. When the test had been standardised, as the pathologists now proposed to do, its value would be increased, for it would not only indicate a general syphilitic infection, but also point to the particular nature of a given local inflammation.

Mr. McAdam Eccles suggested testing the father and apparently healthy brothers and sisters of the patient.

Mr. J. E. R. McDonagh mentioned two cases of interstitial keratitis recently under his care. One, a girl, who first showed the disease at the age of 23 years, gave a positive Wassermann reaction. The second case was a married woman with one child; she had had double interstitial keratitis, and had Hutchinsonian teeth; both mother and child gave a positive reaction. He recommended that all children of a suspected mother should be tested, and those giving a positive reaction treated with anti-syphilitic remedies.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

Tuesday, June the 9th, 1910.

Dr. G. A. Berry, *President,* in the chair.

A Paper on Congenital Cataract.—Mr. N. Bishop Harman read a paper giving details of the inheritance of congenital cataract in nine families. Of these five were of lamellar cataract, one of coralliform cataract, one of discoid cataract, and one of form unknown, as the cataracts had been removed some years ago, and one of posterior polar cataract with microphthalmia. In the families with lamellar cataract several showed an inheritance through several generations and in numerous individuals. In one a marriage of first cousins seemed to accentuate it in their progeny. Another of these families showed grave mental disorder on both sides in several generations, several dying mad on the paternal side, and many suffering from epilepsy on the maternal side. The case of posterior polar cataract with microphthalmia was particularly distressing, for of five children born to an apparently healthy couple, of whom two were twin, the four surviving were all irremediably blind from the defective growth of the eye. It was noted that in several instances those affected with congenital cataract were mentally defective.

Family Choroiditis.—Mr. Doyne showed some cases among members of a first family of "family choroiditis," and pointed out that the spots were exudations beginning in early adult life, but more generally later, increased very much in middle age, when, though the appearance of the lesion was gross, the sight was not proportionately affected, and finally, in old age, passed into atrophy with very great loss of sight.

NORTHERN ASSOCIATION OF MEDICAL WOMEN.

Saturday, June the 4th, 1910.

Miss Ivens, M.S., *President,* in the chair.

A Case of Vesical Calculi.—Dr. Ruth Balmer (Stockport) read notes of a case of vesical calculi in a girl, aged 14 years. A supra-pubic cystotomy

was performed by Miss Ivens, and two large calculi removed from a contracted bladder. A self-retaining catheter was inserted, and the wound healed by first intention. The calculi measured 2 in. by 2½ in. each respectively, the nucleus in each case being a hairpin.

A Paper on the Treatment of School Children after Medical Inspection.—Dr. Mary Davies (Liverpool), in a paper on the treatment of school children after medical inspection, pointed out that one of the greatest difficulties lay in the varying social positions of children attending the elementary schools, some of the parents having incomes of £300 to £400. The free treatment of such children at school clinics would be a grave injustice to the general practitioner.

Philadelphia Pediatric Society.

Meeting, June the 14th, 1910, Charles A. Fife, M.D., President.

Double Decapsulation of the Kidney.—Dr. E. B. Hodge again showed the girl upon whom double decapsulation of the kidney had been performed three years ago, as little is known about the late results of renal decapsulation. Double decapsulation was done three years ago for acute nephritis which did not yield to medical treatment. The immediate result was most gratifying, and when shown before the Society last year she had been in good health for a long time, and urine was free from albumin and casts upon repeated examination. How slight was the margin of safety, however, her recent history well shows. Last November she had bronchitis, which was neglected, and when seen by Dr. Hodge there was, in addition, marked œdema of face and extremities, with scanty high-coloured urine. She was then admitted to the Presbyterian Hospital. Now her condition is good, but it is a grave question how long it will be before another infection will prove too much of a burden for her crippled kidneys. The speaker felt sure that the operation saved her life. He might soon have to face the question of repeating it.

Dr. Fife said that this case had been admitted to the Presbyterian Hospital in November, 1909. She had kept well since the operation until about three months before admission, when she became dropsical. The œdema at this time disappeared in nine days. She was then well until a week before admission, when she caught cold, and immediately eyelids, abdomen, and legs became œdematous. On admission her eyes were completely closed, face was puffy, as was the integument of the chest; abdomen was enormously distended by ascites, vulva markedly œdematous, and thighs and legs decidedly "water-logged." The urine passed in the first twenty-four hours was estimated to be about 4 oz., and contained albumin, pale granular and hyaline casts and a few leucocytes. The heart was enlarged, especially to the left; second sounds were accentuated; no murmurs. Systolic blood-pressure was 120 mm. Lungs were negative; no pleural effusion. Her condition remained unchanged for ten days, the highest urinary elimination being 10 oz. On the twelfth day this increased to 28 oz., the œdema began to subside, and in two more days had practically

disappeared. She then passed 45 to 50 oz. of urine. She was discharged five weeks after admission in good general condition, though the urine still contained a trace of albumin and a few pale granular and hyaline casts. There had been nothing in the treatment worthy of special mention. In two weeks she was re-admitted with another attack of bronchitis, with œdema almost as extensive as before. Urine was again reduced to 4 or 5 oz. a day. In three weeks swelling and ascites had disappeared. She remained in the hospital until April, and when discharged her urine was normal. Two weeks later she was re-admitted because of anasarca and suppression of urine, and was again discharged June the 7th, 1910. In the two attacks which Dr. Fife saw the patient was comatose and in a most desperate state. He had no idea that she could survive either of them. Because of the marked suppression of urine, the ease with which it was produced and relieved, because of the gravity of the symptoms and the history of operation and the conditions preceding it, the case was of unusual interest.

Noma following Typhoid Fever.—Dr. John Speese reported the history of a child, aged 8 years, admitted to the Children's Hospital with typhoid three weeks before. Attention was directed to the condition of the mouth by the gangrenous odour of the breath, and inspection of the inner surface of the cheek disclosed an ulcerative lesion the size of a dollar, which was surrounded by a zone of induration. Externally to this area the skin was red and shining. Gums and tongue showed spots of ulceration, and several loose and necrotic teeth were present. Regarding the condition as an ulcerative stomatitis which was becoming gangrenous, Dr. Speese curetted the diseased area to limit the spread of the gangrene. After removing all necrotic tissue the raw surfaces were swabbed with nitric acid. After-treatment consisted in stimulation and frequent applications of local antiseptics. Recovery resulted in six weeks, with very slight deformity. Microscopic examination of portions of tissue removed by the curette showed streptothrix. The case demonstrates the danger of necrotic teeth, through which the streptothrix probably found entrance to the tissues. Prompt operative interference is necessary in such cases to limit the gangrene. Particular attention should be directed to the after-treatment, to the use of local antiseptics, and to the measures necessary to support the patient through a prolonged septic infection.

Dr. Frank Crozer Knowles exhibited the photograph of a fatal case of noma. Two years ago an epidemic of measles occurred at St. Vincent's Home, when several cases of noma were observed, all of them ending fatally. This photograph was taken the day before death, six days after the start of the gangrenous process. Crandon, Place, and Brown ('Boston Med. and Surg. Journ.,' April, 1909) give a thorough account of seven cases of noma developing during an epidemic of measles, two of which recovered. According to Kaposi and Port the mortality from this disease is 75 per cent. Rilliet and Barthez found 95 per cent. fatalities among twenty-one cases. According to Osler it occurs after measles in about one half of all cases.

Cerebral Paralysis.—Dr. Francis B. Jacobs reported the history of an Italian boy, now aged 4 years, who was observed first when seventeen months of age. He was born by the breech, with a midwife in attendance. At seventeen months he showed rickets and was suffering from pseudo-leukæmic anæmia of infancy. At twenty-one months he tried to walk, and at twenty-four months could walk only with assistance. He finally began to walk

alone at twenty-six months. When thirty-one months of age he had convulsions, after which time some asymmetry of the face and head and paralysis of the left arm and leg were noted. Movement of the left hand improved under massage; he could then walk without assistance again, but his gait was typical "scissors" gait. When three years of age he had another convulsion, since which time he has become worse, now showing distinct mental impairment. The anæmia appears to have disappeared entirely by this time. The table of blood-counts, extending over two years, showed the apparent recovery from the anæmia.

Société de Pédiatrie, Paris.

May the 17th, 1910.

Rachitic Incurvation of Tibia.—M. Victor Veau showed a girl, aged 8 years, on whom he had performed a cuneiform osteotomy for an intense curvature of the right tibia. Radiographs and photographs were shown; an excellent result was obtained.

Purulent Pleurisy in Infants.—M. P. Armand-Delille described a condition met with after an attack of influenzal broncho-pneumonia, with signs of this disease at one of the lower lobes. There were, however, in addition an expiratory harsh bronchophony and ægophony. The presence of these signs led to the suspicion of a pleural effusion. Exploratory puncture revealed the presence of pus, but it was noticed that it extended to no great depth, and that if the needle penetrated a centimetre further, only a red liquid due to pulmonary condensation was drawn off. On trying to evacuate with an aspirator only 20 to 40 grm. of pus were obtained. These characteristics were verified on autopsy. The posterior aspect of one of the lobes of the lung was found to be adherent to the parietal pleura by tough, yellow, false membranes. On separating these, they were found to limit, over an area varying from a five-shilling piece to the palm of the hand, a purulent exudation, about one to two centimetres thick. The periphery was formed of false membranes of coagulated pus, and the central part of pus more or less liquid but generally thick. The false membrane was often so tough that it remained adherent in parts to the parietal pleura. In a word the collection of pus formed a cake (*en galette*) on the surface of the lung. This form of pleurisy is sometimes curable by simple puncture.

Quartan Fever in a Boy, aged 13 years.—MM. Nobécourt and Paisseau reported the case of this kind in which the temperature, taken every four hours, showed the existence of a regular quartan ague; the spleen was enlarged. Hæmatozoa found in the blood. The attacks of fever were cut short by quinine in one gramme doses. In thirteen days nine grammes were taken.

Topography of Pneumonia in Children.—MM. Weil and G. Mouriquand read a paper on the localisation of pneumonia in children, and concluded that this disease was most benignant when limited to the right

apex, and that on the contrary the most serious cases were basal, since they were complicated in nearly 30 per cent.

Scarlatinal Streptococcic Meningitis.—MM. G. Weill and J. Chalier (of Lyons) reported the case of a boy, aged 7½ years, attacked with scarlet fever of a benign type. The fever fell rapidly; the eruption was of short duration and scanty; desquamation early. The course seemed favourable until the sixteenth or seventeenth day, when a suppurative cerebro-spinal meningitis supervened. Marmorek's polyvalent serum was used without avail.

Ichthyosis and Thyroid.—MM. Marcel Ferrand and C. Robert related two cases, aged 9 years and 5 years, treated with thyroid for three months consecutively. No appreciable modification in their condition was observed. With the exception of cold extremities and dry hair there were no other signs of thyroid insufficiency.

Congenital Jaundice due to Malformation.—MM. Ferrand and Robert reported the case of a girl, who died, aged 5 months, with jaundice which began about three weeks after birth. There was a marked arrest of development in the biliary passages; all the upper portion, gall-bladder, cystic duct, hepatic duct and first portion of the bile-duct was absent and replaced by a narrow fibrous strand. The bile-duct, in the part which remained, was empty and less developed than normal. The intra-hepatic bile-ducts were rudimentary. There was fatty degeneration of the liver with pigmentary staining and commencing biliary cirrhosis.

A Case of Atypical Mumps.—M. Nathan related the case of a boy, aged 9 years, who had no other disturbance than a slight coryza, followed two days later by pain in the ear, which was rapidly cured by Politzer inflation. There was no change in the parotid or submaxillary glands. Twenty-seven days later the sister of this child and two young friends who had played with him were attacked with definite mumps.

Vincent Dickinson.

Abstracts from Current Literature.

Medicine.

On acute pyelitis due to Bacillus coli as it occurs in infancy (*'Quart. Journ. of Med.,' April*, 1910, *p.* 251).—This paper is written by **John Thomson**, and with it are incorporated pathological reports by **Stuart McDonald** on two fatal cases of pyelo-nephritis. When a child's urinary tract is invaded by *Bacillus coli* four things may occur clinically: (1) *Simple bacilluria:* Acid urine, with perhaps an offensive smell, containing *Bacillus coli* in large amount but no pus; no subjective symptoms, except enuresis or an increased frequency of micturition. (2) *Cystitis:* Numerous pus cells and *Bacillus coli* in acid urine; increased frequency of micturition with, sometimes, a slight degree of dysuria; little or no rise of temperature, and no general illness or distress. (3) *Pyelitis:* A similar state of the

urine, with a high remittent type of temperature, which is often ushered in by shiverings or rigors, and, in most cases, serious general disturbance and great distress. (4) *Suppurative nephritis:* A similar condition of the urine, but with more albumin and some tube-casts; severe general symptoms with more cachexia than in uncomplicated pyelitis, resulting in extreme exhaustion, and, if the kidney affection is extensive, in death.

The paper is based upon a study of twenty-five cases. Presumedly the *Bacillus coli* is derived from the patient's own bowel. The question whether, in any particular case, the bacilli have passed from the bowel to the pelvis of the kidney directly through the bones, or have been carried there by the blood-stream, or whether they have spread upwards from the outside by way of the urethra, bladder, and ureters, is difficult to answer. Any of these three routes, or some combination of them, may be taken. When one side is much more affected than the other it certainly seems to be in favour of the view that the disease has spread upwards from below. This is also supported by the fact that twenty-one of the cases out of twenty-five were girls. With regard to predisposing causes the weakening influence may sometimes be of the nature of a chill; possibly some chemical change in the urine may have occurred. The histories of the cases are not enlightening on this point. Three certainly, and probably five, were suffering from infantile scurvy, three at least from severe dyspepsia and diarrhœa, and others from a lesser degree of indigestion; one had profound anæmia and one otitis media. In three cases the symptoms set in about a month after an influenzal attack. Eleven were said by their mothers to have been in good health when the symptoms set in.

The age of the patients varied from one to twenty-one months, the majority being between three and nine months. Twenty-one were females. The children were usually bottle-fed, but in two cases they were on the breast, and two others on both breast and bottle. In most of the cases the hygienic surroundings were quite satisfactory, and in fully one half they were the children of very well-to-do people. The season of the year made no difference, as cases occurred in every month except August.

Symptoms.—The general symptoms are extremely severe; there is nothing distinctive, however, except a little pus in the urine. The temperature often reached 104° F. or higher and assumed a remittent type, remaining so in untreated cases for many weeks, or relapses occurred with intervals of a few days' normal temperature. Under proper treatment the temperature fell by crisis in a few days. In rare instances there was a relapse some weeks or months later. At the onset a noticeable shiver occurred in five, a well-marked rigor in ten, and a distinct convulsion in two. In two of the cases the children had suffered from recurrent attacks of faintness with general rigidity, but with no shivering. The children were drowsy and often delirious; respiration was quickened, and they usually vomited. The blood showed some degree of leucocytosis, 16,000 to 26,000 per c.mm. The local symptoms were usually slight—sometimes frequent micturition, or slight dysuria, and occasionally tenderness over one or other loin. The localisation of tenderness was extremely difficult, owing to the child's general sensitiveness. Vulvitis and vaginitis were never observed.

The clinical points about the urine are: (1) At the time the temperature first rises no pus is often (perhaps ever) to be found in the urine. It always appears within a few days. (2) The pus may, at a later stage, disappear from the urine for a day or two, and then reappear. This is

probably due to one ureter being mainly affected at the time and to its having become temporarily blocked while the other remains patent. (3) Although the urine is acid on passing, it tends rapidly to become alkaline on standing. One is apt, therefore, to be misled if one tests the reaction of urine which is not freshly passed.

Diagnosis rests on two things: (1) The presence of pus in the urine, along with the severe general symptoms already described; and (2) the absence of any ascertainable disease of other parts sufficient to account for these severe symptoms. This last is important, as acute pyeltis is often mistaken for meningitis.

Treatment.—The main indications are two: The first is to ensure a copious discharge of urine, which is effected by giving fluid freely, by the mouth if possible, and, if not, by the rectum (saline enemata). The other is to render the urine alkaline on passing and to keep it so for a time, by administering potassium citrate or some other alkaline remedy. The author begins with 48–60 gr. of potassium citrate, and increases it to 120, 150, or even 180 gr. in the twenty-four hours if the urine remains acid. The urine usually becomes alkaline in four or five days. The effect of the alkaline treatment on the case can be best appreciated by looking at the temperature chart. It is advisable to keep the bowels open, and for this phosphate of soda is probably best, as it tends to render the urine alkaline. It is a question whether antiseptics are of any use, but generally speaking, the improvement under potassium citrate is so steady and satisfactory that nothing else seems to be necessary. For the same reason bacterio-therapy does not seem to be required.

Prognosis.—Of the twenty-five cases twenty-one recovered, and three died from the disease spreading to the kidney, and one of abdominal tuberculosis. The risk of a fatal extension from the pelvis of the kidneys occurring, especially when treatment has not been sufficiently prompt and thorough, is worthy of more attention than it has received. The author, therefore, concludes with an account of the symptoms and post-mortem appearances of two cases of pyelo-nephritis. James E. H. Sawyer (Birmingham).

Eighty consecutive cases of wasting infants fed on undiluted citrated milk (*'Proc. Roy. Soc. Med.,' vol.* III, 1910 [Section for Study of Disease in Children, *p.* 103).—**Frederick Langmead.**—The method of modifying cow's milk by the addition of sodium citrate was first introduced by Sir Almroth Wright, and obtained practical recognition as the result of the writings of Dr. Poynton. Whole milk was recommended originally by Sir Almroth Wright, but most practitioners had hitherto followed Dr. Poynton and combined citration with dilution. Dilution, however, carries with it certain disadvantages. First, it increases the bulk of the meal and thus the likelihood of dilation and atony of the stomach. Secondly, there is need to add cream and sugar, in amount varying with the dilution employed. This increases the expense, and further, most samples of cream contain preservatives, often in deleterious amounts. Thirdly, the complexity of the method often supplies too great a task for the mother, entailing as it does a knowledge of the dilution suitable for each month. Fourthly, dilution only, without citration, often leaves the chief source of digestive disturbances—the toughness of the curd untouched. The paper deals with the results of the administration of *undiluted* citrated milk in wasting infants. Each baby was weighed before the treatment was started and at each subsequent attendance, whether at

weekly, fortnightly, or longer intervals, and a chart was kept on which the weights were duly recorded. No hard and fast rule was followed as to the amount or frequency of the feeds, but they were adjusted to the needs of the baby. Two grains of sodium citrate in a watery solution were added to each ounce of milk, and the milk was brought to the boil. One of the chief advantages of citrated whole milk is its simplicity, and thus much manipulation, with its attendant risks and mistakes, is avoided. The disadvantages of dilution—the bulkiness of the feed, the complexity of the monthly variations, the dangers of artificially preserved cream, or of giving too little fat, are all evaded. There is no danger of scurvy. It more readily agrees with the infant's powers of digestion than diluted milk. *Analysis of cases*: Eighty consecutive cases are comprised in this paper. At the first attendance the age varied from three weeks to four months. The previous feeding had been by the breast, by cow's milk and barley-water, and by many different kinds of patent foods. All were wasting when first seen and many were very puny and marasmic. Four weighed under 5 lb., their ages being 3, 4, 8, and 10 weeks respectively. Ten others weighed under 6 lb., their ages varying from five weeks to three months; all weighed below the average. The results were very gratifying. All gained in weight. One died of epidemic diarrhœa, after having progressed favourably. In one case only was this method of feeding supplanted by another. It was that of an infant who had thrush, and the mother stated that condensed milk only was retained. Three were the subjects of rickets. One of these had rickets before coming under treatment, and one had also syphilis, hernia, and phimosis. The remaining seventy-five were all well and healthy when last seen. There was no case of gastro-intestinal disturbance apart from zymotic diarrhœa (in five cases) sufficiently severe to produce loss of weight.

AUTHOR'S ABSTRACT.

Roseola infantilis (*'Pediatrics,'* XXII, 1910, *p.* 60).—**J. Zahorsky.**—In the older works on pediatrics many different eruptions were confused together under this title which of late has fallen into desuetude. Zahorsky wishes to apply it to a non-contagious febrile erythema, morbilliform in character, but without catarrhal symptoms beyond slight faucial congestion, and not followed by desquamation or any sequelæ. All his cases occurred in children under two and a half years. The fever is usually high, but falls by crisis on the third or fourth day when the rash appears. The eruption is most marked on the back, buttocks and thighs, less on the face, and disappears in twenty-four to forty-eight hours. It most closely resembles German measles, from which it is distinguished by the longer duration of the prodromal period, the slight degree of glandular enlargement, and the absence of contagiousness. J. D. ROLLESTON.

Cerebral tumours in children (*'Pediatrics,'* XXII, 1910, *p.* 191).—**H. N. Read.**—These are by no means rare. They are seldom found before the first six months of age, but are most frequent during the first decade. Fifty per cent. are tubercular, and then follow in order of frequency—glioma, sarcoma, cysts, carcinoma, glio-sarcoma, angio-sarcoma, myxo-sarcoma, pupillary epithelioma, and gumma (Peterson). Boys are twice as frequently affected as girls. Tubercular tumours are nearly always secondary to a deposit elsewhere. The same applies to carcinoma and sarcoma. Cysts are either due to the echinococcus or *cysticercus*, or follow a hæmorrhage or embolic softening. Gumma in childhood is very rare. The symptoms and treatment

are much the same as in adults. Read records a case in a boy, aged 13 years, whose mother had died of pulmonary tuberculosis. The symptoms pointed to a tumour of the left side of the crus and pons. Von Pirquet's reaction was negative, and vigorous antisyphilitic treatment was adopted. Improvement took place after ten days' mercurial inunction, but headache and vomiting persisted for two months. Finally, there was complete recovery. J. D. Rolleston.

The Chicago Juvenile Court (*'Arch. of Pediat.,'* xxvii, 1910, *p.* 81).—**F. S. Churchill** and **J. A. Britton** deal with the medical aspects of this institution, whose object it is to deal with delinquent and dependent children, the latter being those who have no proper home care. The paper is based on the study of 2758 children, 1550 of whom were delinquents, and 1208 dependents. The dependents comprise children from three to eleven years, and the delinquents from twelve to sixteen years inclusive; 862 of the dependents were boys and 346 girls, and 1409 of the delinquents were boys and 141 girls. During the first few years there is little difference in physique between the court boy and the normal, but at four or five he becomes inferior in weight and chest capacity and after the eighth year in height as well. The court girls are slightly below normal in height and weight, but of greater chest capacity from the first until their sixteenth year. They then present a sharp rise in the weight curve and their height becomes equal to the normal. All the girls at this age are delinquents, their superior physique and attractiveness probably contributing to their delinquency. All the children of both groups were remarkably free from organic disease. A considerable number had enlarged tonsils and adenoids, carious teeth, and enlarged cervical glands. Diseases of the ear occurred in 45 per cent. and about one sixth had eye troubles. Gonococcus infections were limited to the girls, in whom they were found in about 35 per cent. and almost exclusively in the delinquents. Only one case of syphilis, in a boy, aged 15 years, was noted among the 2758 examined. J. D. Rolleston.

Pneumococcal angina at the onset of scarlet fever (*'Tribune Médicale,'* 1909, *p.* 581).—**Lafforgue.**—This phenomenon is usually independent of any other pneumococcal localisation, especially broncho-pneumonia, and does not add to the gravity of the prognosis. Three forms are described: (1) Phlegmonous; (2) erythemato-pultaceous; (3) membranous. Lafforgue records three illustrative cases to show that streptococcal infection of the throat is not an indispensable accompaniment of scarlet fever. In two of the cases there was extensive labial herpes. J. D. Rolleston.

Typhoid fever in children (*'Gaz. des Hôp.,'* 1910, *p.* 344).—**L. Babonneix** records nine interesting cases: (1) Boy, aged 7½ years. Typhoid associated with tuberculosis. (2) Girl, aged 4½ years, with meningeal symptoms and spinal lymphocytosis. A few days after the diagnosis of tuberculous meningitis had been made, improvement took place and a positive Widal was obtained. (3) Boy, aged 11 years. Severe and prolonged relapse with intestinal hæmorrhage and arthritis of hip-joint. (4) Endocarditis in girl, aged 14 years (*vide* British Journal of Children's Diseases, 1910, *p.* 85). (5) Pneumo-typhoid in boy, aged 12 years. (6) Boy, aged 7 years. Hæmorrhage followed by perforation, verified at autopsy. (7) Boy, aged 15½ years. Two sudden and unexplained falls of temperature, one of which was accompanied by vomiting of green fluid. (8)

Boy, aged 9 years. Typhoid associated with tuberculosis. (9) Girl, aged 13½ years. Superficial ulceration of the cheek, cured by application of methylene blue. J. D. Rolleston.

Mild scarlet fever followed by a fatal relapse (*'Arch. de méd. et de Pharm. Milit.,'* LV, 1910, *p.* 103).—**Nicolas.**—A young soldier had a mild attack of scarlet fever. The temperature became normal on the fifth day, and he was allowed up on the twenty-fifth day. Three days later, while the hands and feet were desquamating, a relapse occurred with all the symptoms of scarlatina anginosa. Death took place on the thirteenth day of the relapse. J. D. Rolleston.

Auto-inoculation of vaccinia (*'Arch. f. Kinderheilk.,'* LII, 1909, *p.* 123). —**L. Wolfer** records two cases. The first was a girl, aged 8 years, vaccinated twelve days previously, in whom aberrant lesions which at first suggested syphilis were situated on the external genitals, perinæum and anus, as well as on the terminal phalanx of the left index finger. The inoculation was probably due to the girl scratching herself owing to the irritation caused by worms, the ova of which were found in the stools. The second case was in a girl, aged 5½ years, in whom the lesions had a similar causation and distribution. Difficulty in micturition was a prominent symptom in both cases. Such disagreeable complications of vaccinia which afford a welcome weapon to the anti-vaccinationist, may be avoided by warning the parents to prevent their recently vaccinated children touching the lesions on their arms. J. D. Rolleston.

The stools of the new-born (*'Arch. of Pediat.,'* XXVII, 1910, *p.* 167). —**T. S. Southworth** criticises the text-book descriptions, according to which, after a period varying from three to five days, the meconium is replaced by the classic yellow or orange-yellow stools of uniform semi-solid consistency, departures from which type indicate disturbance of the infant's digestion or a deficient or unsuitable mother's milk. According to Southworth's observations the meconium stools persist for three or four days, and are followed by bile-tinged mucoid intestinal secretion,which may be dark brown or brown-yellow, but are much more commonly dark green. About the sixth day yellow stools are the exception rather than the rule, but the majority are greenish-yellow and more or less fluid, gradually gaining in consistency, and only at a later period, which varies considerably, becoming yellow. The green stools of the transition period bear no relation to summer diarrhœa, with which they are often confounded, and the child consequently subjected to unnecessary medication. Southworth insists on the fact that many infants make satisfactory progress in weight with atypical stools.

J. D. Rolleston.

Accidental vaccinia (*'Berlin. klin. Woch.,'* 1910, *p.* 133).—**A. Géronne** records a fatal case of accidental vaccinia in a hitherto unvaccinated girl, aged 2 years, suffering from eczema, who had been inoculated by her recently vaccinated brother. Generalised vaccinia developed. On the fourteenth day of disease, as the lesions were desiccating, symptoms suggestive of meningitis occurred, though the cerebro-spinal fluid was clear, and death took place on the sixteenth day. The autopsy showed diffuse punctiform hæmorrhages in the cerebral meninges and cortex and numerous thrombi in the sinuses. Blochmann in 1904 collected twenty cases of accidental vaccinia in unvaccinated children suffering from eczema. Six died, and one completely lost

the sight of the right eye. The reasons for the unusual severity of accidental vaccinia in eczematous children are as follows: (1) The patients are unprotected by a previous vaccination. (2) The humanised lymph with which they are inoculated is more virulent than calf-lymph. (3) More lymph is used in accidental than in ordinary vaccination. (4) The lymph inoculated into the eczematous area reaches the circulation quicker than when the insertion is made in the ordinary way in the healthy skin. To avoid the possibility of accidental vaccinia parents should be warned of the danger that vaccinated children are to those with whom they come in contact, especially unvaccinated children suffering from skin eruptions.

J. D. Rolleston.

Clinical significance of curds in infants' fæces (*'Boston Med. and Surg. Journ.,' February* 3, 1910).—**Talbot** states that large tough curds are usually solid. When shaken up in cold water they sink, and thus can be easily separated out. They are composed of casein, which on coagulation contains the milk fat in its meshes, the amount varying with the percentage of fat in the milk. These curds pass through the alimentary canal practically unchanged, being digested only on their surface. Most of the fat is an unchanged neutral fat, and only a very small amount is split up into fatty acids and soap. Small, soft curds appear as white flakes or pin-head masses, and are suspended when shaken up in cold water. Most of them consist of fatty acids and soap, and contain very little protein. In cases of doubt whether the curds are fat or casein, they may be placed in 10 per cent. formalin, and allowed to stand for four to six hours. The casein will then be very hard and the fat soft. The presence of either curd is of importance as indicating that the fat or casein is not properly assimilated, and the food should be regulated accordingly. Whenever either of these foods is diminished the other should be increased, so that the caloric equivalent may be maintained. Tough curds are never seen in the stools of breast-fed infants.

T. R. Whipham.

The fate of cases of chorea minor after fifteen to twenty years (*'Jahrb. f. Kinderheilk.,' January*, 1910).—**Forssner** gives the after-states of twenty-eight cases of chorea minor in children, and begins by suggesting that chorea attacks children having a weak constitution. Of the twenty-three children who survived to the age of fifteen years, fourteen present some chronic constitutional disease, such as tuberculosis, exophthalmic goitre, nephritis, or some gastric affection, none of which is a complication of chorea. In five cases there are signs of heart disease, and seven patients have died early from some cardiac lesion. Only one of the children is in good health, notwithstanding a recurrence of the chorea and an attack of acute rheumatism a year later. It is remarkable that this case is the only one which has reached the age of fourteen years. On the other hand, among thirty-five children who had suffered from articular rheumatism, only four have developed constitutional disease; seven have died from heart disease, and three from some intercurrent affection. Twenty-one are in good health.

T. R. Whipham.

Congenital word-blindness (*'Pennsylvania Med. Journ.,' January*, 1910).—**McCready** reports the case of a man, aged 20 years, who had enteritis in infancy and pneumonia with cerebral symptoms at the age of four years. The family history was negative. From the time he first went to school he had

great difficulty in reading, and began to stutter after a fright at the age of ten. He could recognise letters and numerals, but very few words; otherwise he is of average intelligence. After the correction of the speech defect attempts were made to develop the visual word centre in the right hemisphere, and to establish a functional relationship between it and the auditory word centre, as well as Broca's centre in the left. His improvement has been satisfactory. Forty-one cases of this condition have been reported, but many others have doubtless occurred. Heredity appears to play a part, and some cases have shown evidence of a neurotic tendency. With the exception of the visual defect nearly every case was of the average or above the average intelligence. T. R. Whipham.

Treatment of tuberculosis in children with large doses of tuberculin (*'Deutsch. med. Wochens.,' February* 3, 1910).—**Neumann** has tested the tolerance of children for large doses of tuberculin, and asserts that they can stand much larger doses than has hitherto been supposed. He considers that the local reaction to subcutaneous injection is the best test of the effects of the treatment, and does not increase the dose until the local reaction has subsided. The local reactions may continue with the same dosage after the temperature has ceased to rise, or they may be marked when there is no temperature reaction. At first the infiltration persists for a week or more, but as the reaction diminishes it becomes more and more transient, and disappears within a few hours. He defers increasing the dose until the local reaction is slight. He describes the case of a boy, aged 4 years, in which he began with 0·0001 grm., and increased the dose to 0·5 grm. in six months, with excellent effect. The intervals between the injections were from one to six or more days. Great caution, however, must be observed in cases in which the focus is in the neighbourhood of the central nervous system. In certain cases the dyspnœa is much alleviated, and this is ascribed to the reaction of tuberculous bronchial glands.
T. R. Whipham.

Facial reflex in childhood (*'Wien. klin. Wochens.,' February* 3, 1910).—**Sperk** finds that the isolated sudden spasm on tapping one side of the face (Chvostek's sign) is rare during infancy, but occurs more frequently between the ages of five and fourteen years, the frequency increasing with the age. The phenomenon is undoubtedly connected with tetany in many cases. The patients are mostly delicate and nervous, and present other signs of nervousness, such as exaggerated knee-jerks and diminution or absence of the corneal and throat reflexes. T. R. Whipham.

Whooping expiration as a symptom of tuberculosis in early life (*'Wien. klin. Wochens.,' February* 3, 1910).—**Schick** and **Sluka** remark on the whooping nature of expiration in infants, who later develop signs of tuberculosis. Of thirty-six children in whom this characteristic was noted, twenty were between two and four months old, and the others between four and ten months. Seven of the children are living, and seven have been lost sight of; the others have died. In five other children between the ages of one and five years the sign was caused by pneumo-thorax or compression of the air-passages from different causes. The writers regard it as a valuable diagnostic sign of tuberculous bronchial glands in early infancy. It excludes

other affections which might suggest tuberculosis, such as croup, asthma, and bronchitis, in which the whoop occurs during inspiration as a rule.

T. R. Whipham.

Peculiar hereditary anomaly of the hair and nails (*'Bulletin de la Soc. de Méd. de Rouen,'* 1908).—**Hebert** and **Halipré** give an account of a girl, aged 12 years, who came to hospital on account of impetigo of the face. Her general condition was normal, but the hairs of the eyebrows were very scanty and entirely colourless. The eyelashes were scanty and of a light colour, and the irides were blue. The skin of the forehead, chin, and upper lip were covered with a few downy hairs, but the cheeks were smooth. The hairs of the head were scanty, only about 2 cm. long, and very small and white; they could be easily extracted, even in tufts, without breaking. The hairs on the vertex and on the part adjoining the forehead were thinner than on the rest of the scalp. The occiput and the parts around the ears showed only scanty down. There was no hair on the rest of the body, except some down on the pubes and the lower part of the abdomen. The terminal phalanges of both the hands and feet were clubbed, and the nails were hypertrophied, being much thicker than normal, smooth and friable at the ends, and presenting irregular striations. These peculiarities could be traced back to the sixth generation. Altogether, among eighty known descendants fifty-two have been affected—twenty-eight males and twenty-four females—and so far the affection has never skipped a generation. In some families all the members have been attacked, in others the boys only, while in others only one child of two or three, independently of sex. The heredity appears to be governed by no law, and there is no ground for supposing that syphilis or leprosy is an ætiological factor.

T. R. Whipham.

Death from lumbricoid worms (*'Old Domin. Journ. of Med. and Surg.,' February*, 1910). **Hazen** saw a girl, aged 8 years, who had been sickly and thin from her infancy, and had always had a voracious appetite. Suddenly she became ill, and in a few hours passed into a comatose state, from which she could be only partially roused. Death occurred five days later. During the first two days the urine was scanty, and on the second day she passed two large worms after a dose of calomel and a saline enema. The diagnosis being uncertain rectal injections of saline solution were given every three hours, and strychnine was administered hypodermically as required. After several saline injections an enormous quantity of worms of all sizes was passed, and on the fourth day worms were discharged by the mouth as well. Death was probably due to toxæmia from products of the parasites. No anthelmintic drugs were given because of the intoxication and depression.

T. R. Whipham.

Myatonia congenita of Oppenheim (*'Amer. Journ. of the Med. Sciences,' March*, 1910).—**Haberman** reports three cases presenting certain points in common—an extensive apparently flaccid paralysis and absence of patellar and Achilles' reflexes. In one there is vaso-motor disturbance, and in other slight atrophy, which, however, is marked by adiposis. Thus far the cases suggest anterior poliomyelitis, but the fact that two, and probably all, are congenital refutes this view, as congenital anterior poliomyelitis appears not to exist. Further, there is no actual degenerative atrophy showing the reaction of degeneration, but rather an extreme condition of muscular atony. The condition is a congenital atonic pseudo-paralysis, which is met with in

the first two or three years of life, when the reflexes are weak or even absent, and the electrical reaction reduced, but never degenerative. There is no sensory impairment, nor bladder and rectal troubles.

T. R. Whipham.

Hæmophilia: arrest of hæmorrhage by means of peptone (*'Rev. de Méd.,' February*, 1910).—**Nolf** and **Herry** report that in nine cases of hæmophilia hæmorrhage was arrested by the injection of 10 c.c. of a 5 per cent. solution of peptone in a ·5 per cent. solution of sodium chloride. In certain cases two injections were made as a prophylactic measure ten and two days respectively before a major operation. In one case hæmaturia was checked by one injection, but the patient died from hæmatemesis a year later. The patients varied between childhood and old age, and a single injection was sufficient in nearly every case. Peptone is more efficacious and more easily sterilised than serum, and heating to 120° C. for an hour does not alter its properties. For local application an extract of lymphoid organs—spleen, lymph-glands, and thymus—seems to be as effectual as fresh serum. The extract is made by triturating the organs with a little sand, adding one part of the gland to two parts of a ·09 per thousand sodium chloride and ·5 per thousand calcium chloride solution, and then straining. The action and effect of the peptone seems to be identical with that of fresh serum, but more pronounced.

T. R. Whipham.

Spasmodic paraplegia of congenitally syphilitic origin in a child (*'Ann. de Méd. et Chir. Inf.,' February* 1, 1910).—**Marfan** describes the case of a boy, aged about 9 years, who could only walk very slowly without support, both lower limbs being markedly spastic. No ataxia was present. When reclining the paraplegia was less marked, and passive movements of the joints were possible. The reflexes were exaggerated, and the presence of Babinski's sign indicated that some lesion was present in the pyramidal tract. There were no sphincter disturbances or trophic lesions, but there were Argyll-Robertson pupils, and the child was mentally backward. The trouble is probably due to congenital syphilis, but the fact that treatment was not commenced until fifteen months after the onset of the symptoms accounts for the lack of improvement. The diagnosis was confirmed by the subsequent development of interstitial keratitis, which cleared up under specific treatment. The affection resembles syphilitic spinal paralysis in adults, except that the sphincters do not seem to be affected.

T. R. Whipham.

Four cases of congenital acholuric (so-called "hæmolytic") jaundice in one family (*'Lancet,' January* 22, 1910, *p.* 227, *and 'Folia Hæmatologica,'* 1910, *vol.* IX, *Part i, p.* 518).—**F. Parkes Weber** and **G. Dorner** describe the cases of Charles T—, aged 53 years, his married daughter aged 32 years, another daughter aged 14 years, and a son aged 12 years. They are all fairly well nourished and normally developed in body and mind. There is nothing of the infantilism sometimes associated with Hanot's chronic biliary cirrhosis in children. The father of Charles T—, who died at the age of 70 years, is said to have been jaundiced all his life. In all four patients the jaundice appears to have been congenital, the degree of yellowness varying from time to time. Charles T— says that he is yellower in winter than in summer, and that he feels weak and depressed during the exacerbations of the jaundice. His married daughter says that

her jaundice was increased during every pregnancy and whenever she caught cold. In none of the cases has there been any icteric pruritus or any xanthomatous change in the skin, such as is so often present in cases of chronic obstructive jaundice. There is no clubbing of the fingers. The spleen can be felt abnormally hard below the costal margin and is decidedly enlarged in all four cases, but the liver is slightly, if at all, enlarged. There is no history of biliary colic. The fæces are normally coloured (rich in urobilin in the specimens examined), but Charles T— says that on one occasion during an exacerbation of jaundice his motions became temporarily colourless. The urine is of rather high colour, generally free from bilirubin, but always containing abundance of urobilin and urobilinogen. The condition of the lungs, heart, and blood-pressure appears normal. In all four cases Wassermann's reaction for syphilis gave a negative result. In all four cases the blood shows the characteristic features of chronic hæmolytic jaundice. These features may be summed up as follows:—Bilirubin is always present in the blood-serum and blood-plasma. There is nearly always some (though often very slight) anæmia, and the degree of this anæmia may vary considerably from time to time. The red cells are mostly fairly normal in shape—that is to say, there is seldom much poikilocytosis—but in size they usually vary very much more than those of normal individuals, so that there is a condition of decided "anisocytosis" present. The mean diameter of the red cells is often somewhat less than that observed in normal persons, whereas in cases of chronic obstructive jaundice the mean diameter of the red cells is generally distinctly above the normal mean for healthy individuals. Polychromatophilia and (generally) punctate basophilia of red cells are observable to a greater or less extent, and the frequent presence of nucleated red cells (normoblasts) is characteristic. The red cells are found to undergo hæmolysis, when added to graduated weak saline solutions, more readily than do the red cells of ordinary healthy persons, and still more readily than those of individuals suffering from obstructive forms of jaundice. It is highly probable that in cases of congenital chronic acholuric ("hæmolytic") jaundice the occasional exacerbations of the symptoms are sometimes accompanied by a certain amount of actual obstruction to the bile-flow (due to a temporary catarrhal condition or to increased bile-viscosity). Thus, a mild form of obstructive jaundice may occasionally complicate the ordinary symptoms of the disease, and may account for the temporary appearance of bilirubin in the urine and disappearance of colour from the fæces. AUTHOR'S ABSTRACT.

Pathology.

Congenital absence of the gall-bladder (*'New York Med. Journ.,' February* 12, 1909).—**Hoffman** and **Jackson** report a case in which the gall-bladder was absent. The common duct ran from the intestine into the liver-substance, passing through the normal position of the gall-bladder, where it was wide and tortuous. On tracing its course the duct was seen to divide and subdivide, and one of the subdivisions was found to lead to a round mass in the left lobe of the liver, near the œsophagus, which was an abscess containing about three ounces of greyish pus and some degenerated material. The walls of the abscess were ragged and fibrous. The opening of the common duct into the duodenum measured 2 cm., and at the level of the pancreas the canal had twice that diameter. T. R. WHIPHAM.

Otology, Laryngology, and Rhinology.

Pneumococcal membranous laryngitis in measles (*'Bull. de la Soc. de Pédiat.,'* 1909, *p.* 337).—**Triboulet, Harvier,** and **Perineau.**—A boy, aged 3 years, was seized with dyspnœa on the fifth day of a mild attack of measles. Tracheotomy was performed, and a large piece of membrane was coughed up. Two days later death occurred, preceded by signs of double broncho-pneumonia. Autopsy: Edges of tracheal incision covered by greyish exudation. No membrane in larynx, trachea, or bronchi. Symmetrical oval ulceration of aryteno-epiglottic folds. Double broncho-pneumonia. Bacteriological examination of the membrane showed no diphtheria bacilli, but virulent pneumococci. J. D. Rolleston.

Surgery.

Tetanus from infection of the cavity of a tooth (*'Med. Record,' February* 19, 1910).—**Luckett** saw a case of tetanus in a child, aged 10 years, who had very badly decayed teeth. No other lesion was found through which the organism could have gained entrance. Cultures and inoculation of animals showed that tetanus germs were present in the tooth-cavity. T. R. Whipham.

Prolapse of the rectum (*'Archiv f. Klin. Chir.,' vol.* xci, *No.* 3).—**Beresnegowsky** has studied on the cadaver the factors which predispose to prolapse of the rectum and its mode of development, and suggests a method of effectual operation by strengthening the pelvic floor. An incision is made on either side of the anus at an acute angle with it, and without involving the sphincter. A flap of muscle from the gluteus maximus on one side is inserted across the perinæum, the object being to form an adequate support in this situation. The writer describes a case in which the operation was successfully performed. T. R. Whipham.

Umbilical hernia containing all the abdominal viscera (*'Journ. of Indiana State Med. Assoc.,' January,* 1910).—**Eastman** saw a case of a female infant with an umbilical hernia covered by only a peritoneal coat, which, though thickened, was sufficiently transparent to allow the contents to be seen. Two days after birth an attempt was made to reduce the hernia, but it was found that the organs were for the most part firmly adherent, and that replacement was impossible, the abdominal cavity being much smaller than the sac. In the sac were the liver, gall-bladder, spleen, pancreas, stomach, most of the large and small intestines, and the bladder. The sac itself measured 17·5 cm. in diameter. The child died on the fifth day. T. R. Whipham.

Strangulated hernia in an infant of four months (*'Journ. of Amer. Med. Assoc.,' March* 19, 1910).—**Hopkins** reports the case of a male infant who had been bottle-fed after the first two weeks. The feeds consisted of three parts milk to one of water, and were given irregularly, with the result that the child became constipated and suffered from colic. Proper feeding was prescribed, but not persisted in. During the fourth month a bubonocele appeared on either side, both of which were easily reducible. One day, however, the hernia on the left side was found to be strangulated. A Bassini's operation was performed with excellent results. T. R. Whipham.

Malformation identical in both arms (*'Amer. Journ. of Obstet.,' February*, 1910).—**Stockard** describes a case in which the same malformations occurred in both arms. The elbow-joints were fixed in a flexed position either from ankylosis or some abnormal structure, while a loose fold of skin stretched from the upper arm to the forearm. In the forearms there was only one bone, apparently the radius. The carpal bones could not be clearly made out, but from the narrowness of the wrists it was supposed that only one or two existed. The hands were each represented by only one metacarpal bone and one two-jointed digit, presumably the thumbs. The point of interest is that both arms present exactly the same condition.

T. R. Whipham.

Colopexy for prolapse of the rectum (*'Rev. de Chir.,' February* 10, 1910).—**Quénu** and **Duval** advocate colopexy as being superior to other methods for correcting congenital prolapse of the rectum. When the prolapse is of perinæal origin suture of the levator muscles, combined with recto-syndesmopexy, should be undertaken. By means of colopexy the pouch of Douglas is obliterated, and then by means of a row of sutures the pelvic colon is fastened to the posterior aspect of the bladder, and to the left pelvic peritoneum and the iliac peritoneum. T. R. Whipham.

Stenosis and atresia of the alimentary tract with imperforate anus (*'Journ. of the Amer. Med. Assoc.,' February* 26, 1910).—**Goosman** saw a male infant with imperforate anus. Twelve hours after birth vomiting commenced, arousing a suspicion that an occlusion might exist in the upper part of the alimentary tract. The vomit was bile-stained, and sickness continued at frequent intervals until the time of death, sixty hours after birth. At the post-mortem the rectum was found to end blindly three quarters of an inch from the surface. The contents of the bowels were greyish-white and flaky, unlike meconium. About two inches above the rectum the large gut was occluded, and the stomach showed an hour-glass contraction, which only allowed the passage of a good-sized probe. The author remarks that if the child had been operated upon the rectum would have been easily found, and the absence of meconium would have led to a search for the atresia higher up. The presence of meconium, however, does not exclude the possibility of atresia higher up, as, according to Kuliga, intestinal atresia is comparatively late in development, and occurs after bile secretion has commenced. As to the ætiology, there were no signs of adhesions, peritonitis, or bands, and the condition may be explained on Kreuter's theory, that after the alimentary canal has been formed a rapid growth of the lining-cells occurs, which ultimately causes an obliteration of the lumen. After a short period in this condition the rapid growth of the bowel wall causes a complete re-establishment of the lumen. Kreuter believes that all these cases are due to the lumen remaining obliterated.

T. R. Whipham.

Method of opening the mastoid antrum (*'Ohio State Med. Journ.,' January*, 1910).—As a result of his experience from experiments on the temporal bone and from cases, **Iglauer** claims the following advantages for the method of opening the antrum through the meatus as the first step in the mastoid operation: (1) The proceeding is justified on anatomical grounds, as the anterior inferior wall of the antrum is very thin and no important structures intervene between the meatus and the antrum. (2)

The antrum can be easily and rapidly opened through the meatus, and the burr is kept in full view throughout the operation. (3) The exposure of the cavity of the antrum early in the operation gives valuable information as to the condition of the mastoid bone. (4) With the antrum thus fully exposed to view, the remaining steps of the mastoid operation are greatly simplified. (5) In cases in which there is a sinus running anteriorly it is often necessary to work from within outwards, and the direct method through the meatus does away with the necessity of introducing instruments into the middle ear, a proceeding not unattended with danger. (6) In cases where the simple operation has been performed healing may be accelerated if part of the posterior bony meatus be removed at the time of the operation. (7) The electric burr is a safe instrument in mastoid surgery as it is not liable to penetrate the dura mater, and it stimulates the facial nerve before endangering its integrity. T. R. Whipham.

Sarcoma of the uterus in a child (*'Journ. of Med. Soc. of New Jersey,' April*, 1910).—**Miningham** reports a case of primary sarcoma of the uterus in a child, aged 12 years. The tumour was of the small spindle-celled variety and contained areas of gangrene. Menstruation had not occurred, but a flow of blood took place which lasted for three weeks, and was attributed to the commencement of the catamenia. The girl complained of pain and discomfort in the pelvic region and gradually lost weight. Frequent hæmorrhages occurred for ten months when the flow became more or less constant. Curetting aggravated the condition, and septic absorption set in, the temperature being of a hectic type. A diagnosis of sarcoma was made and the uterus and adnexa were removed by the combined vaginal and abdominal operation, though the outlook was grave. An immediate improvement, however, occurred, and has continued without interruption.

T. R. Whipham.

Traumatic œsophageal stricture (*'Arch. of Pediat.,'* xxvii, 1910, *p.* 132).—**G. W. Ross.**—Sixteen days after drinking some lye, which burnt her mouth and lips, as well as her œsophagus and stomach, a girl, aged 2 years, was unable to swallow anything whatever. Under chloroform a stomach-tube was inserted into the œsophagus as far as possible, and then a thick solution of subnitrate of bismuth forced in as the tube was gradually withdrawn. A skiagram was then taken which clearly showed the position of the stricture. Bougies of gradually increasing size were passed, at first every day, later every two or three days, and finally, once a week until the child was able to swallow quite well. J. D. Rolleston.

A case of hypertrophied thymus with tracheal stenosis treated surgically in an infant, aged 4 months (*'Lyon Médical,' April* 10, 1910, *No.* 15, *p.* 797).—**MM. Weill, Pehu,** and **Chalier** describe this case, brought to the clinic for "attacks" which, according to the mother, began with crying, then followed embarrassment of breathing, convulsive movements of the limbs, which became rigid; blueness of the face ensued while the breathing became increasingly difficult; there was vomiting and emission of urine during the attack, which lasted from a few minutes to a quarter of an hour. The attacks began when the child was a fortnight old and occurred at first four or five times a week; they then became more frequent, and latterly occurred five or six times daily. After admission during one attack a swelling the size of a nut was seen to come up from the thorax behind the

sternal notch. An operation was undertaken for the partial removal of the thymus but the attacks were not abolished; the child died six days later. At the autopsy the remaining part of the thymus weighed 15 grm. 25, which, together with 4 grm. 25 removed at the operation, made the total weight of the organ 19 grm. 50. VINCENT DICKINSON.

Some remarks on the treatment of congenital dislocation of the hip-joint (*'The Transvaal Med. Journ.,' February*, 1908).—**Sthamer** strongly recommended Lorenz's method, and showed two children upon whom he had recently operated. He considers it advisable to control, and if necessary to correct, the position for two months after reduction. The plaster-of-Paris is removed at the end of six months, but the child should be kept for some weeks longer in bed. The best results are obtained with children under seven years, but good results may now be expected at a much older age. M. D. EDER.

Reviews of Books.

PRAKTISCHE WINKE FÜR DIE CHLORARME ERNÄHRUNG (PRACTICAL HINTS ON CHLORIDE-POOR DIET). By Prof. Dr. H. STRAUSS, of Berlin. Berlin: S. Karger, 1910. Price M. 1.

THIS little book, the work of a well-known authority, contains some useful tables of the sodium chloride content of the more important articles of food, both in the raw and in the cooked state, as well as numerous recipes for the preparation of palatable dishes compatible with a salt-poor diet.

KURZGEFASSTES LEHRBUCH DER KINDERHEILKUNDE FÜR ÄRZTE UND STUDIERENDE (CONCISE TEXT-BOOK OF PEDIATRICS FOR PRACTITIONERS AND STUDENTS). By Dr. CARL SEITZ, of Munich. Third edition. Berlin: S. Karger, 1910. Price, paper, M. 13; bound, M. 14, 60.

No better proof of the importance of the study of children's diseases can be given than the fact that a text-book described as concise consists of a closely printed volume of 558 pages, among which numerous paragraphs in small type are freely interspersed.

Since the second edition, published in 1901, the author has found it necessary to re-write the chapters on the physiology and pathology of nutrition, those on infectious diseases including tuberculosis and syphilis, and on disturbances of internal secretion. Considerable changes have also been made in the rest of the work.

Special attention has naturally been devoted to the achievements of German workers, clear accounts being given of Finkelstein's alimentary intoxication, Czerny's exudative diathesis, and Heubner's chronic infantile nephritis.

The book in most respects is well up-to-date. Exception, however, must be made to the statement that there are no indications for surgical interference in congenital hypertrophic stenosis of the pylorus.

The work as a whole may be warmly recommended for its practical character, readable style, excellent print, and convenient shape.